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**SOLANO COUNTY
POLICIES AND REGULATIONS
GOVERNING THE SUISUN MARSH**





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POLICIES AND REGULATIONS GOVERNING
THE SUISUN MARSH

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PREPARED BY THE SOLANO COUNTY PLANNING DEPARTMENT

DECEMBER 1982

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CHAPTER I INTRODUCTION

The first part of the book is devoted to a general introduction to the subject of the book. It is divided into two main parts: the first part is devoted to a general introduction to the subject of the book, and the second part is devoted to a more detailed introduction to the subject of the book. The first part is divided into two main parts: the first part is devoted to a general introduction to the subject of the book, and the second part is devoted to a more detailed introduction to the subject of the book.

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I. INTRODUCTION

The Suisun Marsh represents an area of significant aquatic and wildlife habitat and is an irreplaceable and unique resource to the residents of Solano County, the State and Nation. The Marsh shown in Figure 1 comprises approximately 85,000 acres of tidal marsh, managed wetlands and waterways. It is the largest remaining wetland around San Francisco Bay and includes more than ten percent of California's remaining wetland area. The Marsh is also a wildlife habitat of nationwide importance in that it provides wintering habitat for waterfowl of the Pacific Flyway. Because of its size and estuarine location, it supports a diversity of plant communities which provide habitats for a variety of fish and wildlife, including several rare and endangered species.

Preservation Act Requirements

In 1977, the California State legislature enacted the Suisun Marsh Preservation Act which provides a mechanism to preserve and enhance the wildlife habitat of the Suisun Marsh and to assure retention of upland areas adjacent to the marsh in uses compatible with its protection. The primary responsibility for carrying out the provisions of the Suisun Marsh Preservation Act of 1977 was assigned to local government. The majority of the Suisun Marsh lies under the jurisdiction of Solano County. Other local governmental agencies having jurisdiction within the Marsh include the cities of Benicia, Fairfield, Suisun City, the Solano County Local Agency Formation Commission, the Solano County Mosquito Abatement District and the Suisun Resource Conservation District. Under the provisions of the Act, Solano

Figure 1 Suisun Marsh Vicinity Map

This map illustrates the Suisun Marsh area and its surrounding regions. The central feature is the Suisun Marsh, depicted with a stippled pattern. To the north, the Sacramento River flows into the Yolo Bypass, which then leads to the Suisun Bay. The map shows the boundaries of several counties: Sacramento to the north, Yolo to the west, Napa to the southwest, Sonoma to the south, Marin to the southeast, and Contra Costa to the east. San Joaquin County is also visible to the northeast. Major waterways include the Sacramento River, Yolo Bypass, Suisun Bay, and the San Joaquin River. The map also shows various cities and towns such as Sacramento, Yolo, Winters, Marysville, Macaville, Fairfield, Pittsburg, Concord, Martinez, Benicia, Crockett, Pinole, and Richmond. The Suisun Marsh is shown as a large, irregularly shaped area with a stippled pattern, located in the central part of the map. The surrounding areas are labeled with county names and city/town names. The map includes a network of roads and waterways, with the Suisun Marsh being a prominent feature.

County and these other agencies were required to bring their policies and operating procedures into conformity with the provisions of the Suisun Marsh Preservation Act and the Suisun Marsh Protection Plan through the preparation of a component to the Local Protection Program, (LPP).

Solano County's component was required to contain development controls designed to meet the following objectives (a) to protect the wetlands within the Marsh; (b) to protect agricultural lands both within and adjacent to the Marsh; (c) to designate principal permitted uses on land within the Marsh; (d) to limit erosion, sedimentation, and run-off; (e) to protect riparian habitat; (f) to ensure that use of deep water industrial and port area at Collinsville is in conformity with the Protection Plan; and (g) to ensure that new development in and adjacent to the Marsh is designed to protect the visual characteristics of the Marsh.

On May 20, 1980, Solano County submitted to BCDC its component of the Suisun Marsh Local Protection Program. On September 18, 1980, BCDC approved the County component subject to a number of conditions. Amendments were prepared to meet BCDC conditions of approval and these were submitted on August 31, 1982. The Bay Commission certified the County's component on November 4, 1982.

Summary of the Solano County Component

The Solano County component includes a number of amendments to the County General Plan and other County policies and includes several new ordinances and regulations affecting land use in and around the Suisun Marsh.

New marsh protection policies and land use designations have been incorporated into the Land Use and Resource Conservation and Open Space Elements of the County General Plan. Several other marsh protection measures contained in existing documents such as the Collinsville-Montezuma Hills Area Plan and Program, and the Scenic Roadways and Health and Safety Elements have also been included in the component.

Numerous amendments to the zoning regulations are also included. A Marsh Preservation District, Limited Agricultural District and Water-Dependent Industrial District have been developed and applied to lands within the Suisun Marsh. The Marsh Preservation District encourages the continuation of existing wildlife habitat uses within the managed wetlands and marshes, and the Limited Agricultural District encourages existing extensive agricultural practices to continue within the upland areas directly adjacent to the Marsh. The

Water-Dependent Industrial District is intended to ensure that industrial development in the Collinsville-Montezuma Hills area is accomplished in a manner consistent with protection of the Marsh. An amendment to the zoning regulations has been developed which provides for issuance of Marsh Development Permits by the County.

The County has also developed ordinances for the protection of water quality and riparian habitat within and adjacent to the Marsh. A grading and erosion control ordinance to control soil erosion, sedimentation and related environmental damage by regulating grading and other earth disturbances has been adopted. In addition, an ordinance has been developed which regulates development directly adjacent to designated watercourses in order to preserve water quality and protect significant riparian habitat. Measures to protect the Marsh from septic system failures have also been outlined.

Citizen Participation and Program Coordination.

The Public was encouraged to participate in the public hearings and in the component formulation. Notices of public hearings were advertised and interested parties and property owners in the marsh were notified of meetings. Information on the component was discussed in local newspapers and local radio news. Documents were made available at the local libraries, as well as at the planning department.

Adoption of the Solano County component by the Planning Commission and Board of Supervisors took place over a three year period and included more than 50 public hearings on various elements of the component. Hearings before the Planning Commission began on October 4, 1979 with the final Board of Supervisors action occurring on August 31, 1982. Additional public hearings were held by BCDC during the component review and certification process.

Essential to program preparation was the coordination of local planning efforts through the Suisun Marsh Local Protection Program Technical Advisory Committee. The committee included representatives of Solano County, the cities of Fairfield, Benicia and Suisun City, Solano County Local Agency Formation Commission, Suisun Resource Conservation District, Solano County Mosquito Abatement District, local irrigation, sewer and reclamation districts, California Department of Fish and Game, State Department of Health, San Francisco Bay Conservation and Development Commission, Assemblyman Hannigan's Office and the U.S. Soil Conservation Service. The committee met almost every month from December 1977 through September 1979. This organization ensured the maximum coordination among local

agencies and allowed for continuing review and comment by state and federal agencies throughout the development of the work programs and the proposed components. The Technical Advisory Committee review process culminated in a committee sponsored Public Forum on September 19, 1979, during which each local agency introduced its proposed component to the public and received comments on the drafts prior to formal public hearings before local legislative bodies.

Environmental Review

An Initial Study of Environmental Impacts was prepared by the County for its component. The study concluded that the project would have no significant environmental impact and a Negative Declaration was prepared. The Negative Declaration was circulated through the State Clearinghouse in accord with CEQA requirements and no comments were received. The Negative Declaration was certified by the Board of Supervisors on December 4, 1979.

Using the Document

This publication has been prepared to consolidate all of the policies and regulation contained in the County's Local Component of the Suisun Marsh Local Protection Program as certified by BCDC. The material contained here is derived from two other documents: Suisun Marsh Local Protection Program, Solano County Component, May 1980 and Amendments to the Suisun Marsh Local Protection Program, Solano County Component, August 1982. These two documents contain all of the resolutions and ordinances the County has adopted in preparing its local component. Because actions were taken over a long period of time and certain resolutions and ordinances were amended, it was felt desirable to consolidate the certified component. The policies and regulations have also been integrated into Elements of the County's General Plan and into the Solano County Code.

The purpose of Policies and Regulations Governing the Suisun Marsh is to provide a ready reference on local policy for those who are considering a project in the Marsh or for those who may be interested in the steps which have been taken to preserve it. The Suisun Marsh Act requires the issuance of a Marsh Development Permit for land use changes in both the Primary and Secondary Management Areas. The San Francisco Bay Conservation and Development Commission issues Marsh Permits in the Primary Management Area, and Solano County issues permits in the Secondary Area. In addition several other agencies have jurisdiction in the Marsh. Those who have prepared their

own local components include the Cities of Fairfield and Suisun, the Solano County Local Agency Formation Commission, the Solano County Mosquito Abatement District and the Suisun Resource Conservation District. When considering a marsh project, the appropriate agencies should be consulted for assistance and information about permit requirements.

CHAPTER II
SUISUN MARSH POLICIES
CONTAINED IN THE
SOLANO COUNTY GENERAL PLAN

II SUISUN MARSH POLICIES CONTAINED IN THE SOLANO COUNTY GENERAL PLAN

LAND USE AND CIRCULATION ELEMENTS

AGRICULTURAL AND OPEN SPACE LAND USE

Marsh and Wetland Habitats Land Use Proposals

The Marsh designation has been applied to the Suisun Marsh on the Land Use and Circulation Map as shown in Figure 2. This designation is designed to preserve and enhance the quality and diversity of marsh habitats. Uses in marsh designated areas should be restricted to aquatic and wild-life habitat; marsh oriented recreational uses; agricultural activities compatible with the marsh environment and which protect the habitat value of marsh areas; and educational and scientific research opportunities and resources.

The Primary Management Area as established in the Suisun Preservation Act of 1977 is shown in Figure 3. This area consists of tidal marshes, seasonal marshes, managed wetlands and lowland grasslands. It is the intent for this area to remain in its existing marsh and related uses as provided for in the Suisun Marsh Local Protection Plan. The Secondary Management area established in the 1977 Act is also delineated on Figure 3 and is designated for extensive agricultural use. This area consists of upland grasslands and agricultural lands and serves as a significant buffer to the wetland areas. The Secondary Management Area is designed to assure retention of upland areas adjacent to the marsh in uses compatible with its protection as provided for in the Suisun Marsh Local Protection Plan. The County has applied Marsh Preservation (MP) and Limited Agricultural (AL) zoning districts to the Primary and Secondary Management Areas, consistent with the General Plan.

In addition to the Suisun Marsh, there exist a number of important habitat areas along the County's significant water-courses. The plan seeks to preserve the water quality and

Figure 2 - Suisun Marsh Land Use and Circulation









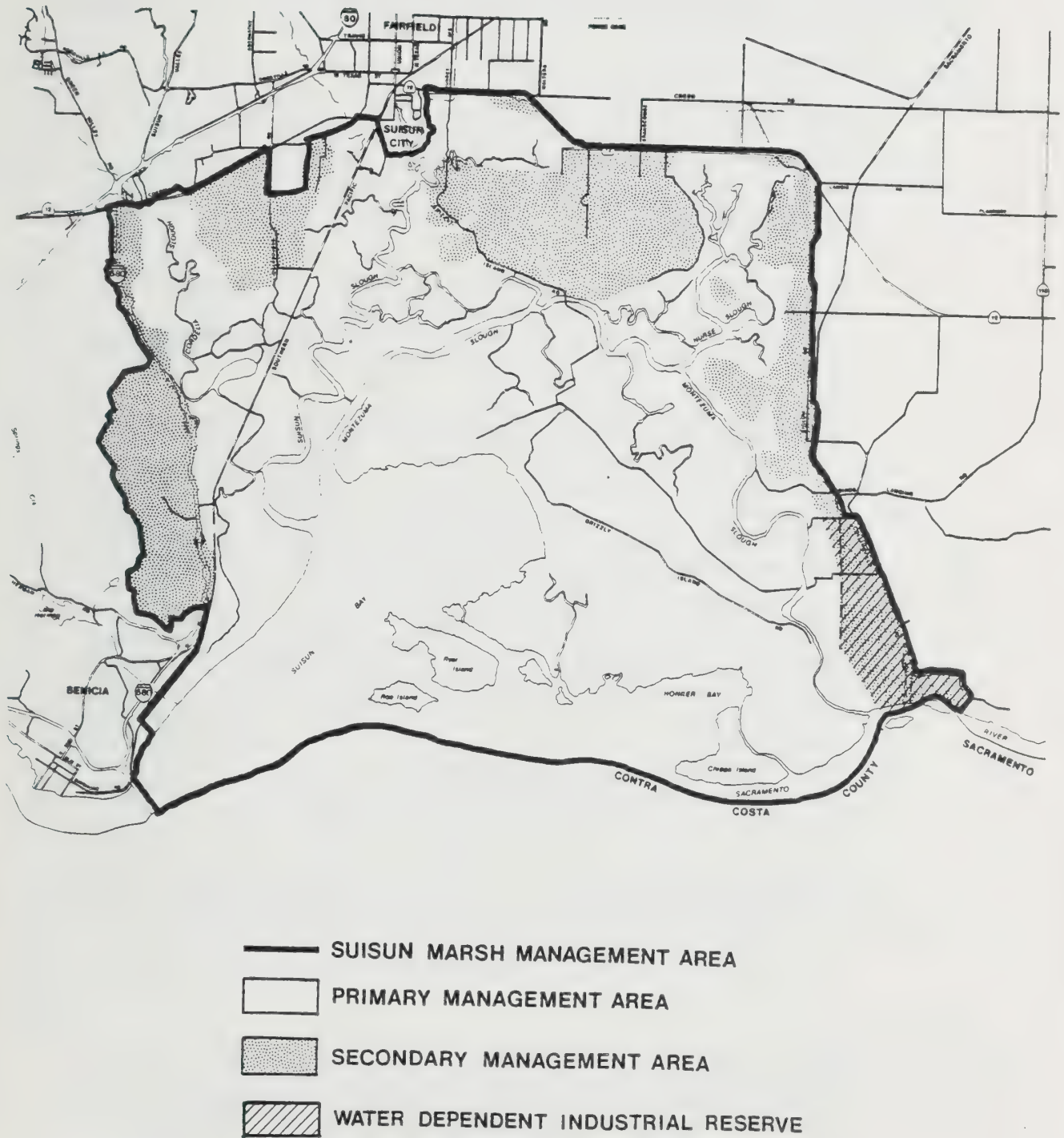
-  MARSHLAND
-  EXTENSIVE AGRICULTURE
-  WATER DEPENDENT INDUSTRY
-  COMMERCIAL RECREATION
-  RECREATION
-  URBAN GROWTH LINE

Figure 3 - Suisun Marsh Management Area



riparian habitat of these watercourses through the control of erosion, sedimentation and runoff resulting from adjacent use and development.

The area west of I-680 and outside the boundaries of the City of Fairfield are excluded from the land use restrictions which the Act places upon the buffer, except for watercourse protection and erosion and sediment control provisions.

Policies

1. The County shall preserve and enhance wherever possible the diversity of wildlife and aquatic habitats found in the Suisun Marsh and surrounding upland areas to maintain these unique wildlife resources.
2. The County shall protect its marsh waterways, managed and natural wetlands, tidal marshes, seasonal marshes and lowland grasslands which are critical habitats for marsh-related wildlife.
3. Existing uses should continue in the upland grasslands and cultivated areas surrounding the critical habitats of the Suisun Marsh in order to protect the Marsh and preserve valuable marsh-related wildlife habitats. Where feasible, the value of the upland grasslands and cultivated lands as habitat for marsh-related wildlife should be enhanced.
4. Agriculture within the Primary Management Area of the Suisun Marsh should be limited to activities compatible with, or intended for, the maintenance or improvement of wildlife habitat. These include extensive agricultural uses such as grain production and grazing. Intensive agricultural activities involving removal or persistent plowing of natural vegetation and maintenance of fallow land during part of the year should not be permitted.
5. Agricultural uses consistent with protection of the Suisun Marsh, such as grazing and grain production, should be maintained in the Secondary Management Area. In the event such uses become infeasible, other uses compatible with protection of the Marsh should be permitted.
6. In marsh areas, the County shall encourage the formation and retention of parcels of sufficient size to preserve valuable tidal marshes, seasonal marshes, managed wetlands and contiguous grassland areas for the protection of aquatic and wildlife habitat.

7. The County shall ensure that development in the County occurs in a manner which minimizes impacts of earth disturbance, erosion and water pollution.
8. The County shall preserve the riparian vegetation along significant County waterways in order to maintain water quality and wildlife habitat values.
9. The County shall ensure that public access at appropriate locations is provided and protected along the County's significant waterways within the Suisun Marsh.
10. Within the watershed of the Suisun Marsh, the County shall encourage sound agricultural practices which conserve water quality and the riparian vegetation.

RECREATION LAND USE

Recreation Land Use Proposals

Suisun Marsh Area

The Suisun Marsh is an 85,000 acre natural recreational area of statewide significance. The area provides for a variety of recreational opportunities on both private and public lands. Duck hunting is the major recreational activity in the marsh occurring from late October until January. Fishing accounts for nearly as much recreational use in the marsh as duck hunting. In addition, several other forms of recreation such as water sports, upland game hunting and wildlife observation are popular in the Marsh.

The importance of the marsh as a recreational area can be seen in the amount of land which is given over to duck hunting. At present, private duck clubs comprise about 37,000 acres and account for about 41,000 waterfowl hunter days each year. An additional 10,000 acres of public land provide 15,000 hunter days per year. Public hunting is accommodated on the 1800 acre Joice Island and 8600 acre Grizzly Island Waterfowl Management Areas located in the central and southern portions of the marsh.

The General Plan diagram indicates two planned recreational sites in the Marsh. A Wildlife Interpretive Center is planned to be developed near the intersection of Hill Slough and Grizzly Island Road in conjunction with current state efforts to construct the Hill Slough Wildlife Area. Beldon's Landing is

also indicated as a site for a potential public or private recreational development.

In addition to the above mentioned intensely used recreational sites, a number of more passive recreational areas exist in the Marsh. Passive recreational opportunities will be provided at the following areas:

- . The 1,112 acre Hill Slough Wildlife area extends along Grizzly Island Road from Hill Slough to State Route 12. Levee construction will return some lands to wetland status and provide public hiking trails.
- . The Peytonia Slough Ecological Reserve is a 206 acre area directly south of the City of Suisun City open for public hiking, fishing and wildlife observation.

A number of recreational oriented commercial uses exist in the Marsh. These uses which include Little Honker Bay Resort, Collinsville Resort, Pierce Harbor, Suisun Pacific Marina, Port of Suisun Marina and City of Benicia Marina are located on the edge of the marsh accessible to the general public. As the demand for recreation increases there may be a need for more such facilities or expansion of existing facilities.

Policies:

1. Within the Suisun Marsh, provision should be made for public and private recreational development to allow for public recreation and access to the Marsh for such uses as fishing, hunting, boating, picnicking, hiking and nature study.
2. Recreational uses in the Marsh should be located on the outer portions near population centers and easily accessible from existing roads.
3. Recreational activities that could result in adverse impacts on the environment of the Suisun Marsh should not be permitted.

INDUSTRIAL LAND USE

Water Dependent Industrial Development

The Water Dependent Industrial classification is specifically

designed to accommodate industrial development along the Sacramento River as provided for in the Collinsville-Montezuma Hills Area Plan and Program. The Collinsville-Montezuma Hills Area Waterfront represents a unique County resource in that it is one of the few remaining undeveloped areas with deep water access in the Bay Area. Future development of this area will be governed by the specific policies and proposals of Collinsville-Montezuma Hills Area Plan.

This Water Dependent Industrial site is adjacent to the Suisun Marsh and development could have an impact upon Marsh habitats and water quality. Care must be taken to insure that potential impacts upon the Marsh are mitigated through planning guidelines contained in the Collinsville-Montezuma Hills Area Plan.

Policies:

1. The County shall provide for water-dependent industrial development as provided for under the specific policies and provisions of the Collinsville-Montezuma Hills Area Plan and Program.
2. Industrial development shall be located and developed in a manner which protects significant marshland and wetland habitats and the water quality of the area.

RESOURCE CONSERVATION AND OPEN SPACE ELEMENTS

THE FUNCTIONAL POLICY FRAMEWORK FOR RESOURCE CONSERVATION AND OPEN SPACE

Issues Related to Land-Water, Water, Recreation and Biological Resources

The environmental quality of Solano County is due to a diversity of natural conditions which combine to present a variety of opportunities for the accommodation of people within urban areas and in recreation communities, and for the accommodation of people engaged in resource-oriented pursuits, provided that these natural conditions are not abused. Conversely, man's activities can create problems which degrade the environment either permanently or to such an extent that efforts toward re-establishing natural environmental qualities can only be achieved at enormous social and economic costs. Natural resources of significance under this section are the Suisun Marsh, fish and wildlife habitat, flood plains, watercourses, groundwater basins, watershed lands, geologic hazards, and geologic and mineral resources.

The Suisun Marsh

The Suisun Marsh represents an area of significant aquatic and wildlife habitat and is an irreplaceable and unique resource to the residents of Solano County, the State and Nation. The Marsh comprises approximately 85,000 acres of tidal marsh, managed wetlands and waterways. It is the largest remaining wetland around San Francisco Bay and includes more than ten percent of California's remaining wetland area. The Marsh is also a wildlife habitat of nationwide importance in that it provides wintering habitat for waterfowl of the Pacific flyway. Because of its size and estuarine location, it supports a diversity of plant communities which provide habitats for a variety of fish and wildlife, including several rare and endangered species.

In order to preserve and enhance the quality and diversity of marsh habitats and to assure retention of upland areas adjacent to the marsh in uses compatible with its protection, the California Legislature passed the Suisun Marsh Preservation Act of 1977. This legislation serves to protect the Marsh by adopting provisions of the Suisun Marsh Protection Plan as prepared by the Bay Conservation and Development Commission (BCDC). The Preservation Act also requires local governments and districts having jurisdiction over the Marsh to prepare a Local Protection Program for the Marsh consistent with the provisions of the Preservation Act and the policies of the Protection Plan.

An important provision of the Act and Plan is the delineation of two management areas within the Marsh. The Primary Management Area consists of tidal marshes, seasonal marshes, managed wetlands and lowland grasslands within the Marsh, and the Secondary Management Area is comprised of upland grasslands and cultivated lands which serve as significant buffers to the Marsh. Policies incorporated within this Section which refer to uses in either of these management areas apply to the Primary and Secondary Management Areas as established by the Preservation Act.

Another important provision of the Act and Plan is to ensure that appropriate marsh preservation policies are incorporated into local plans and ordinances. The following discussion of marsh related issues presents policies and standards consistent with this provision. Marsh issues addressed herein are discussed and grouped in several areas of major concern. These include provisions for the management of wildlife habitat, agricultural use within and adjacent to the Marsh, preservation of water quality within the Marsh and watershed, recreation and marsh access, as well as standards for natural gas, utilities, and water-related industrial development.

Wildlife Habitat Management and Preservation

The Suisun Marsh and adjacent uplands provide a unique resource for a wide range of aquatic and wildlife species, due to the occurrence of many diverse habitats in close proximity to each other. The marsh also provides habitat for many rare and endangered plant and animal species.

The tidal marshes, managed wetlands, seasonal marshes and the lowland grasslands of the Suisun Marsh represent a vital resource for many forms of marsh wildlife. Most of the wetlands in the Marsh are managed wetlands that are artificially flooded and cultivated to enhance the production of preferred waterfowl food plants. The tidal marshes, which occur on the edges of the bays and sloughs, are exposed to the natural daily

tidal rhythm. Seasonal marshes are found adjacent to the managed wetlands in several areas. They are low-lying lands that are flooded annually by winter and spring rains, and dry out with the approach of summer. Between the Marsh and adjacent uplands lies a "transition zone" of lowland grasslands, which supports a mixture of plants common to both the wetlands and the upland grasslands. Because of their critical importance to Marsh wildlife these areas should be managed so as to preserve and enhance marsh habitat while limiting agricultural use to practices consistent with wildlife use.

Wildlife habitat within the Suisun Marsh shall be managed and preserved through the following policies:

1. The diversity of habitats in the Suisun Marsh and surrounding upland areas should be preserved and enhanced wherever possible to maintain the unique wildlife resource.
2. The Marsh waterways, managed wetlands, tidal marshes, seasonal marshes, and lowland and grasslands are critical habitats for marsh-related wildlife and are essential to the integrity of the Suisun Marsh. Therefore, these habitats deserve special protection.
3. The eucalyptus groves in and around the Marsh, particularly those on Joice and Grizzly Islands, should not be disturbed.
4. Burning in the primary management area is a valuable management tool. However, it should be kept to a minimum to prevent uncontrolled fires which may destroy beneficial plant species and damage peat levees, and to minimize air pollution.
5. Where feasible, historic marshes should be returned to wetland status, either as tidal marshes or managed wetlands. If, in the future, some of the managed wetlands are no longer needed for waterfowl hunting, they should also be restored as tidal marshes.

Agriculture

Adjacent to the Suisun Marsh wetlands and lowland grasslands, is an area comprising upland grasslands and cultivated lands. The upland grasslands and cultivated lands provide habitat for Marsh-related wildlife, but more importantly, by their location and existing uses, they insulate the habitats from the adverse impacts of both urban development and other upland

land uses and practices incompatible with Marsh preservation. Within this area, existing grazing and agricultural uses should continue, and agricultural practices favoring wildlife use and habitat enhancement should be encouraged.

The following policies apply to agricultural uses within and adjacent to the Suisun Marsh.

1. Agriculture within the primary management area of the Suisun Marsh should be limited to activities compatible with, or intended for, the maintenance or improvement of wildlife habitat. These include extensive agricultural uses such as grain production and grazing. Intensive agricultural activities involving removal or persistent plowing of natural vegetation should not be permitted. Grain production should be confined to the Grizzly Island Wildlife Area and relatively small, well-suited areas of some of the large duck clubs. Grazing should be used to control vegetation on duck clubs where plant cover is sub-optimum for waterfowl use and should be discouraged on those clubs where there is already a good mixture of preferred waterfowl food plants. Grazing pressures should not exceed sound range management practices.
2. Agricultural uses consistent with protection of the Marsh, such as grazing and grain production, should be maintained in the secondary management area. In the event such uses become infeasible, other uses compatible with protection of the Marsh should be permitted. The value of the upland grassland and cultivated lands as habitats for Marsh-related wildlife should be maintained and enhanced where possible by planting or encouraging valuable wildlife food or cover plant species.
3. Existing non-agricultural uses such as Solano Garbage Company, Pacific Reclamation and Disposal Inc., Explosive Technology Corporation and others, on sites within the secondary management area should be allowed to continue if they are conducted so that they will not cause adverse impacts upon the marsh. Any future change in uses of these sites should be compatible with the preservation of the Marsh and its wildlife resources.
4. Within the Marsh the County shall limit special assessments against the agricultural lands for the provision of public services, where the demand for such services is not generated by agricultural use on the land.

Water Quality

The Suisun Marsh is located where the salt water of the Pacific Ocean and fresh water of the Sacramento and San Joaquin River Delta meet and mix. Because of its location, it provides a transition between salt and fresh water habitats which creates the unique diversity of fish and wildlife habitats characteristic of a brackish marsh. Water quality in the Marsh today is generally adequate, in terms of salinity, turbidity, temperature and pollution levels. The salinity level, however, is almost totally dependent upon the amount of fresh water flowing in from the Delta since it is this inflow that limits the intrusion of saline ocean waters.

Numerous upstream storage facilities, together with diversions of water from the Delta and the tributary streams of the Delta have substantially reduced the amount of fresh water flowing into the Delta with a resultant increase in salinity intrusion into the Marsh and Delta. Future changes in land use in the watershed of the Suisun Marsh may also affect water quality through changes in turbidity, temperature or pollution levels.

The following policies represent the County's intent in preserving water quality of the Suisun Marsh:

1. Projects designed to import or redistribute the fresh water in the Marsh for salinity control should be planned carefully so that the expected benefits are realized. Furthermore, any proposed import project should be studied to determine if the project would adversely affect the Marsh by encouraging urban and industrial growth in the Marsh area. No import project should be constructed if the adverse environmental impacts of growth on the Marsh would outweigh the possible beneficial impacts of salinity control.
2. To prevent crop damage in some areas, the withdrawal of groundwater from the underground aquifers surrounding the Marsh may be desirable. Withdrawal should not be so extensive as to allow the salt water of the Marsh to intrude into fresh water aquifers, or to disrupt the natural subsurface flow of groundwater into the Marsh.
3. Disruption or impediments to runoff and stream flow in the Suisun Marsh watershed should not be permitted if it would result in adverse effects on the quality of water entering the Marsh. Riparian vegetation in the immediate Suisun Marsh watershed should be preserved, and stream modification permitted only if it

is necessary to ensure the protection of life and existing structures from floods. Only the minimum amount of modification necessary should be allowed in such cases.

4. The development of industrial facilities adjacent to or upstream from the Marsh should be planned to eliminate significant adverse environmental impacts on the water quality of the Suisun Marsh. Activities that could significantly alter the temperature, salinity or turbidity of the water should be prohibited. Industrial facilities that will increase the potential for spills of toxic and hazardous materials should not be permitted unless it is established that spills of such materials will not represent a significant threat to the Marsh.
5. Any development in the Suisun Marsh watershed or secondary management area proposed for areas that have poor soil conditions for construction or that are seismically active, should be controlled to prevent or minimize earth disturbance, erosion, water pollution, and hazards to public safety. Local runoff, erosion, and sediment control ordinances should be established in the immediate Suisun Marsh watershed to protect the Marsh from these potential adverse effects.
6. Riparian vegetation in the immediate Suisun Marsh watershed should be preserved due to its importance in the maintenance of water quality and its value as Marsh-related wildlife habitat. Stream modification should only be permitted if it is proved necessary to ensure the protection of life and existing structures from floods and only the minimum amount of modification necessary should be allowed.

Natural Gas

Several thousand feet below the tidal marshes, managed wetlands, sloughs and bays of the Suisun Marsh are geologic formations that contain trapped accumulations of natural gas. These formations and the accumulated gas constitute the Suisun Marsh gas fields. Gas has been extracted from the Suisun fields since their discovery in 1938. However, due to high demands for natural gas as a fuel and the limited nature of the resource, the fields are expected to be completely depleted by the year 2000. After the depletion of the fields, the remaining geologic formations may be suitable for the underground storage of natural gas extracted from other fields and transported to the Bay Area by pipeline or tanker.

Provisions for natural gas exploration, operation and storage shall be controlled through the following policies:

1. Transportation of natural gas by underground pipeline is the most economical and safe method of gas transportation in the Suisun Marsh area. Future gas pipelines should be permitted if they are consistent with the Suisun Marsh Protection Plan and if the design and construction meet the following standards:
 - (a) Existing pipeline systems are utilized to the maximum extent feasible.
 - (b) The pipeline design meets all applicable safety standards of the Office of Pipeline Safety Operations (OPSO) and other regulatory agencies.
 - (c) The pipeline route avoids tidal marshes and managed wetlands wherever possible and, if that is not possible, the route crosses as little marsh or managed wetland as possible.
 - (d) Wide track or amphibious construction equipment is used in tidal marsh or managed wetland areas. Pads or mats are used as needed to prevent any construction equipment from sinking into the soft marsh muds and damaging the marsh plants.
 - (e) The "trench and push" construction method is used in all tidal marsh and managed wetland areas where feasible, so that the construction zone is kept as small as possible and the minimum amount of heavy equipment passes through the marsh or wetland area.
 - (f) Prior to any pipeline construction or related activities in the Marsh, the contractors consult with the Department of Fish and Game to determine at what time such construction or related activities should be conducted so as to create the least possible adverse impact on breeding, migration, or other fish and wildlife activities.
 - (g) Prior to any underground pipeline construction in the Marsh, the contractors consult with the Solano County Mosquito Abatement District to ensure existing re-circulation water ditches are not blocked and levees are adequately repaired after pipeline construction, or that effective mosquito control measures are maintained.

- (h) At slough, mudflat and bay crossings of gas pipelines, the trench is dredged in a manner that minimizes turbidity and prevents interference of the dredging operation with fish or wildlife.
 - (i) A regular surface and aerial inspection of the pipeline route is carried out as required by OPSO.
- 2. If additional gas wells or ancillary facilities are required for gas exploration, production, or injection, the drilling should be accomplished with the following safeguards:
 - (a) Drilling operations conform to the regulations of the California Division of Oil and Gas designed to prevent damage to natural resources.
 - (b) The drilling operation is confined to as small an area as possible and does not irreversibly damage unique vegetation or fish and wildlife habitats.
 - (c) After drilling is complete, all drilling muds, waterwaste, and any other fluids are removed entirely from the site and disposed of in a manner that does not adversely affect the Marsh.
 - (d) All buildings, tanks "christmas trees" or other facilities related to the production or storage of natural gas do not result in the permanent loss of water surface in the Marsh.
- 3. Construction and drilling in tidal marsh and managed wetland areas should occur only during the dry months of the years (generally April 15 through October 15) when these activities would not disturb wintering waterfowl.
- 4. If gas wells are abandoned, they should be sealed in accordance with Division of Oil and Gas regulations; the drilling or production facilities should be removed; and the surface area should be revegetated with native vegetation within one growing season after abandonment.
- 5. Storage of natural gas in depleted gas reservoirs is a reasonable use of the resource and should be permitted. Storage facilities should meet all safety standards of the Division of Oil and Gas.

6. Because the Suisun Marsh offers both natural gas and depleted gas fields suitable for gas storage, and because it is close to the urban Bay Area and the proposed waterfront industrial area on the Sacramento River, gas will probably continue to be transported out of, into, and around the Marsh. All gas transportation into and out of the Marsh is now by underground pipeline systems. If other types of systems for the transport or storage of liquified natural gas (LNG) are proposed for the Suisun Marsh area, a detailed investigation of the hazards and impacts of LNG facilities should be carried out prior to approval of the facilities.

Utilities, Facilities and Transportation

Construction of utilities, facilities, and transportation systems in and immediately adjacent to the Suisun Marsh can (1) disrupt the Marsh ecosystem at the time of construction; (2) have lasting effects on wildlife by forming barriers and obstacles to their movement and flight patterns; and (3) stimulate urban development by providing services that are a prerequisite for such development.

The following policies are incorporated to protect the Marsh from such facilities:

1. In the Suisun Marsh and upland areas necessary to protect the Marsh, improvements to public utility facilities should follow these planning guidelines:
 - (a) New electric power transmission utility corridors should be located at least one-half mile from the edge of the Marsh. New transmission lines, whether adjacent to the Marsh or within existing utility corridors, should be constructed so that all wires are at least six feet apart.
 - (b) Urban utilities and public services (e.g. natural gas lines, electric lines for local power distribution, domestic water mains, and sewers) should be allowed to extend into the Suisun Marsh and the adjacent upland area necessary to protect the Marsh only to serve existing uses and other uses consistent with protection of the Marsh, such as agriculture. However, utilities in the secondary management area necessary for the operation of water-related industry within the the area designated for such use in the Suisun Marsh Protection Plan at Collinsville would be permissible.

- (c) Within the Marsh, new electric lines for local distribution should be installed underground unless undergrounding would have a greater adverse environmental affect on the Marsh than above-ground construction, or the cost of underground installation would be so expensive as to preclude service. Any distribution line necessary to be constructed above ground should have all wires at least six feet apart.
 - (d) New telephone lines installed in the Marsh and within one-half mile of the Marsh should be buried underground whenever possible. All new telephone cables routed through the Suisun Marsh area should be buried, and the alignment should avoid wetland areas whenever possible.
 - (e) New roadways (highways, primary and secondary roads) and rail lines that form barriers to movement of terrestrial wildlife should not be constructed in the Suisun Marsh or in adjacent uplands necessary to protect the Marsh except where such roadways and rail lines are necessary in the secondary management area for the operation of water-related industry within that area designated for such use in the Protection Plan at Collinsville. Reconstruction of the Sacramento Northern Railroad rail line within the existing right-of-way on the east side of the Marsh should be permitted to serve water-related industrial development at Collinsville. Whenever the reconstructed line would pass through wetland areas, it should be constructed on trestles or in a manner which allows for the natural movement of water and wildlife beneath the alignment, except for the section of rail between Montezuma and the Sacramento River shoreline. This portion may be constructed on solid fill to protect the inland industrial area from flooding.
 - (f) The Solano County General Plan acknowledges the need for the possible future expansion of Highway 12. When future traffic loads warrant the widening of Highway 12, such expansion must be designed so as to minimize adverse environmental impacts on the Marsh.
2. Underground pipelines, wires and cables should be permitted in the Suisun Marsh if no alternative route is feasible and they are designed and constructed to meet the following standards:

- (a) Installation of pipes, wires, and cables (particularly local service utilities) are located within existing road rights-of-way whenever possible.
- (b) All pipelines passing through the Marsh meet Pipeline Safety Regulations of the U.S. Department of Transportation regarding pipe thickness, pressure limiting devices, emergency shut-down valves and other safety design criteria.
- (c) Whenever construction occurs within the wetlands, it is confined to the dry months (generally April 15 through October 15) to minimize disturbance of wetland vegetation, wintering migratory waterfowl, other water-associated birds, and nesting resident birds.
- (d) Wide-track or amphibious construction equipment is used to reduce the bearing weight of the equipment unless pads are laid on the wetland area to support the heavy machinery and to prevent it from sinking into the "soft marsh soil. Equipment movement to the construction site within the Marsh is limited to roads in the immediate vicinity of the pipeline, wire, or cable being installed to minimize disruption of Marsh wildlife habitat. The construction site is well defined and clearly marked so that workers do not disturb adjacent Marsh areas.
- (e) When a trench is cut to install a pipe, wire, or cable, excavation is only slightly wider than the utility line to be buried to minimize wetland disturbance.
- (f) When pipelines only are being installed across wetlands, the "trench and push" method of construction is employed. This construction method, the least damaging to the wetlands because it avoids the need for heavy equipment alongside the trench to install the pipe, involves filling the excavated trench with water and pushing or pulling the assembled pipe through the Marsh trench. Recent pipeline installations in the Suisun Marsh, conducted under a BCDC permit, indicate that this is a practical method in the Marsh.
- (g) Tidal marsh and managed wetlands disturbed during pipeline, wire, or cable construction will generally revegetate naturally within one growing season if the top layer of soil and vegetation is stockpiled when the trench is first dug and

replaced on top of the backfilled trench to facilitate revegetation. If a completed trench is not revegetated within one growing season in a managed wetland, the disturbed area must be reseeded with appropriate native plant seed.

- (h) In water areas (bays and sloughs), dredging and pipe and cable installation is scheduled so as to avoid major fish migrations.
- 3. To protect the Marsh from potential accidental drainage of toxic materials, any future expansion of the Pacific Reclamation and Disposal, Inc. facility should meet all requirements of the Regional Water Quality Control Board, and any future dam construction to contain waste material should meet all requirements of appropriate regulatory agencies, such as the Division of Dam Safety. Any future expansion, construction, or operation of the Pacific Reclamation facility outside the area currently under option should be away from the steep slopes of the hills that front directly on the Marsh.
- 4. The Solano Garbage Company should be permitted to continue its existing County approved operation until it reaches capacity. Expansion of this facility or development of a new site in the Potrero Hills for a central solid waste disposal facility could impact upland grassland areas, which provide valuable habitat for Marsh-related wildlife. However, future development of a new solid waste disposal site in the Potrero Hills should be permitted if it can be shown that the construction and operation of such facilities will not have significant adverse ecological or aesthetic impacts on the Marsh. Development of a central solid waste disposal site in Jameson Canyon could be permitted if the development would not adversely affect the Jameson Canyon Creek or its riparian vegetation.
- 5. Material Disposal Company's debris disposal facility, which is currently not in operation, should not be permitted to resume functioning because its operation would involve fill in tidal marsh and is not compatible with preservation of the Marsh.
- 6. Extraction and removal of minerals or natural materials from existing quarries and borrow areas within the Secondary Management Area of the Suisun Marsh should be allowed to continue where not in conflict with protection of the marsh and in conformance with

County Codes. Sites governed by the above provisions include: Two on the Tule Vista Livestock Company properties, of which one is located east of Scally Road and the other located northeast of Beldon's Landing, one on the Guy Stewart property 1,500 feet west of Shiloh Road, two on the Barnes property 8,000 feet west of Shiloh Road in the Kirby Hills and two on the Wagent property 3000 feet west of Shiloh Road. These are in addition to existing sites under County land use permit.

7. In order to improve marsh management, it is important to improve and maintain exterior and interior levee systems, as well as other water control facilities on public and privately owned, managed wetlands. Hauling excessive amounts of earth material on public roads for levee maintenance use can have a detrimental effect on the roads. In order to minimize impacts on existing public roads on the marsh, earth levee maintenance materials may be transferred from a shore site to barges for transporting the material to a repair site on a temporary basis under the following conditions: (1) there is a proven need for the levee maintenance material at a specific repair site, (2) the transfer site is not a wetland tidal marsh or seasonal marsh; (3) the transfer operation is limited to the minimum time necessary to provide material for the levee repair; (4) any equipment, machinery or similar facilities needed to transfer materials shall be temporary and removed from the transfer site when not in use and (5) no permanent improvements are developed at a transfer site. At such time as is determined to be appropriate by the Board of Supervisors a study may be undertaken to determine whether, when deliveries of marsh maintenance materials are made within the marsh, the operation of a transfer site could encompass transfer of natural materials reclaimed from within the Suisun Marsh from barges to the shore site. Such study, if undertaken, would address the issues of conformance of such an operation with the policies and purposes of the Suisun Marsh Protection Act, and what limitations, conditions, and standards would be necessary to insure protection of the marsh from adverse environmental impact from such activity.
8. The proliferation of sites for the disposal of special wastes could have significant adverse impacts upon preservation of marsh upland areas. The animal burial ground on Scally Road under County Use Permit should be allowed to operate as conditioned. The

creation of additional disposal sites of a special nature shall be prohibited.

9. Policies toward diking, filling and dredging of sloughs, managed wetlands and marshes.
 - a. No dredging, filling or diking activity shall be conducted within the Primary Management Area of the Suisun Marsh except with the permission of the appropriate permitting authorities.
 - b. In order to minimize adverse effects on desirable plant and wildlife communities and to minimize the potential for erosion and sedimentation, all diking, dredging and filling activities shall be carried out in conformity with the following general principles and standards.
 - (1) Stripping or burning of vegetation, or other soil disturbance, should be done in a manner which will minimize adverse impacts on desirable plant and wildlife communities and control erosion and sedimentation.
 - (2) Existing native vegetation shall be retained, protected, and supplemented wherever practical. Development shall be accomplished so that existing trees will be preserved whenever practical.
 - (3) Exposure of soil to erosion by removal of vegetation shall be limited to the smallest area practical and for the shortest time practical. Soil exposure should not exceed an area in which work can be completed during a single construction season to insure that soil stability is established well in advance of the rainy season. In general, soil disturbance shall be limited to the period between April 1 and October 1.
 - (4) Permanent control structures should be installed and final vegetation established as soon as practical.
 - (5) Facilities shall be constructed in a manner which will minimize erosion and sediment deposition in adjacent waterways and wetlands.
 - (6) Slopes, both cut and fill, shall not be steeper than 2:1 unless a thorough geological and engineering analysis indicates that steeper

slopes are safe and appropriate erosion control measures are specified.

- (7) Cuts and fills shall not encroach upon existing watercourses, or constructed channels in a manner so as to adversely affect adjacent properties or the carrying capability of the watercourse.
- (8) Disposal of cleared vegetation and excavated materials shall be done in a manner which reduces the risk of erosion and sedimentation and shall conform to the provisions of these standards.
- (9) Diking, filling and dredging activities shall be conducted so as to minimize interference with critical wildlife activities such as nesting and breeding.

- c. To prevent sedimentation resulting from dredging projects, mud spoils from future dredging should be disposed of in one of the following ways: (a) placement on dry land, (b) placement as fill in approved fills or levee projects (c) barging or piping to suitable disposal sites in the ocean, or dumping in areas of the bay designated for such purposes by the appropriate governmental agency.
- d. All proposed channels should be carefully designed so as not to undermine the stability of any adjacent dikes and fills.
- e. Any proposed fills, dikes or piers should be thoroughly evaluated to determine their effects on sloughs, managed wetlands and marshes and then modified as necessary to minimize any harmful effects.

- 10. Wind energy is an important renewable, natural resource which is limited in its statewide distribution. Areas which are endowed with the resource should be considered for prudent development of wind energy. Certain areas within the Suisun Marsh have been identified as having significant potential for wind energy resource development. Specifically identified are areas west of I-680 and in the Potrero Hills; however, numerous other areas may have potential for development of private or commercial wind energy machines.

Installation of wind turbines in the Suisun Marsh could have a significant impact upon maintenance of the area in its present natural state, on Marsh wildlife, and on the visual characteristics of the marsh. Therefore, careful consideration will need to be given projects on a case by case basis to ensure that significant adverse ecological or aesthetic impacts on the marsh will be avoided. The County's objective is to balance the prudent use of wind resources of the marsh with the need to protect and maintain its essential environmental qualities. The following should be followed in siting wind energy projects: (1) Commercial wind turbine generators should be permitted in the secondary management area only. (2) Projects should not be allowed to proliferate in the marsh, but should be allowed only where monitoring has shown productivity to be feasible. (3) The location and density of machines should not substantially alter the principal (agricultural or wetland) allowed uses in the marsh. (4) Roads and utility transmission lines to serve machines and transmit power from machines must be installed in conformance with provisions of the Suisun Marsh Preservation Act (5) In order to protect the biological resources of the marsh, the design, density, height, noise level, illumination and location of wind turbine generators and ancillary facilities should minimize or avoid the following adverse effects: collision hazards for birds, interference with migratory flight patterns or disturbance of wildlife habitat. Design considerations of importance should include non-synchronous machines, low-noise design, subdued security lighting and minimal tower lighting. (6) All construction must be carried out so as to minimize erosion and prevent sedimentation in the marsh. (7) The installation and operation of wind turbine facilities must protect the visual characteristics of the marsh. In order to minimize the impact upon the aesthetics of the marsh as a natural open space area, wind turbine generators and ancillary facilities should be designed and sited to complement the natural landscape whenever feasible, consistent with the following guidelines: colors should blend with the landscape; lighting should be subdued and be provided for safety and security reasons only; and facilities should be located off the ridgeline unless to do so would result in higher tower height, significant grading or cut and fill.

Recreation and Marsh Access

The vast open expanse of the Suisun Marsh is the location of many recreational activities. The Marsh is well known for waterfowl hunting in California. In addition, several other forms of recreation, including fishing, upland game hunting, and water sports, are also popular. Nevertheless, there are opportunities for a greater diversity and amount of public recreation in the Marsh.

The recreation values of the Marsh, particularly for duck hunting, have been a significant factor in its preservation. Private duck clubs and public agencies, such as the Department of Fish and Game, have made considerable contributions to the improvement of the Marsh habitats for waterfowl as well as other wildlife.

Recreational uses in the Suisun Marsh should be guided through the following policies:

1. Additional land should be acquired within the Suisun Marsh to provide for increased public duck hunting recreational use and additional refuge areas for waterfowl during the hunting season. Acquisition priority should be given to those lands not now operated as managed wetlands.
2. Land should also be purchased for public recreation and access to the Marsh for such uses as fishing, boat launching, and nature study. These areas should be located on the outer portions of the Marsh near the population centers and easily accessible from existing roads. Improvements for public use should be consistent with protection of wildlife resources.
3. Public agencies acquiring land in the Marsh for public access and recreational use should provide for a balance of recreational needs by expanding and diversifying opportunities for activities such as bird watching, picnicking, hiking, and nature study.
4. Agencies administering land acquired for public access and recreational use should be responsible for maintaining the areas and controlling their use. Signing on roads leading into the Marsh and maintained litter receptacles at major public use areas should be provided by the appropriate local or State agency to prevent littering and vandalism to public and private property.

5. Recreational activities that could result in adverse impacts on the environmental or aesthetic qualities of the Suisun Marsh should not be permitted. Levels of use should also be monitored to insure that their intensity is compatible with other recreation activities and with protection of the Marsh environment. For example, boat speeds and excessive noise should be controlled and activities such as water skiing and naval training exercises should be kept at an acceptable level.

COLLINSVILLE MONTEZUMA HILLS AREA

PLAN AND PROGRAM

INTRODUCTION

Existing Conditions

Natural and Visual Resources

HABITAT VALUES. Significant wildlife habitats have been identified in the planning area at various lowland locations along the shoreline and in the western flatland area between Collinsville Road and Montezuma Slough. The major habitat values of the neighboring Suisun Marsh system of which western portions of the site are a part, have already been emphasized. Planning area components of the system include adjacent segments of the Sacramento River and Montezuma Slough, permanent and seasonal marsh areas, and reclaimed lowland grasslands below the ten foot contour which may be restorable to their original marsh condition.

The primary importance of these aquatic and wetland areas lies in their value to migrating fish and bird species. Montezuma Slough is a major part of the principal nursery area for striped bass in the San Francisco Bay-Delta system. The suitability of the slough as a nursery grounds is partially due to its ideal conditions for the growth of Neomysis shrimp, the main food item for striped bass.

The position of the Suisun Marsh system along the Pacific flyway is responsible for its importance to birds migrating south. It is a wintering area for many species and an essential "lay-over" for others.

The planning area marshes along the east side of Montezuma Slough contain active great blue heron and common egret

rookeries and are resting and feeding areas for other migrating species.

Current Plans and Policies

The Suisun Marsh Protection Plan adopted in December of 1976 by the San Francisco Bay Conservation and Development Commission updates and details the regional agency's position regarding land use in the Suisun Marsh environs. The plan's recommendations for the portions of its jurisdiction within the planning area are shown on Figure 4. As can be seen, roughly 2,520 acres at Collinsville and along Collinsville Road are designated for ultimate use by water-related industry. The plan also specifies that such uses should conform to a set of stringent performance guidelines to prevent adverse effects on the marsh. The plan designates the remaining area between the industrial lands and the Montezuma Slough, plus lowlands to the north, as part of its "primary management area" and thus, reserved for the protection and enhancement of seasonal marsh and lowland grasslands in that area and the buffering of the Suisun Marsh from any future water-related uses in the planning area.

PLAN AND PROGRAM

Area Wide Land Use and Transportation Policies

Wetland Habitat

Lands designated as Wetland Habitat on the Plan Map are to be reserved for wetland habitat preservation and restoration. Encompassed are all lands below the 10 foot contour line as it continues west of the present Sacramento Northern Railroad track from Little Honker Bay Road south to its intersection with the track right-of-way, plus all land west of a southern extension of this line to the bench mark at Montezuma Head, and then from that bench mark to a point on the shoreline 3,200 feet west of Bench Mark 3, which is located on the east side of the Collinsville Inlet. The area included amounts to roughly 3,720 acres. The designation is consistent with the configuration of the Bay Area Conservation and Development Commission's Suisun Marsh Protection Plan Primary Management Area and is comprised of permanent and seasonal marshes and lowland grasslands below the 10 foot contour, all of which are critical to marsh wildlife. Moreover, much of the non-marsh

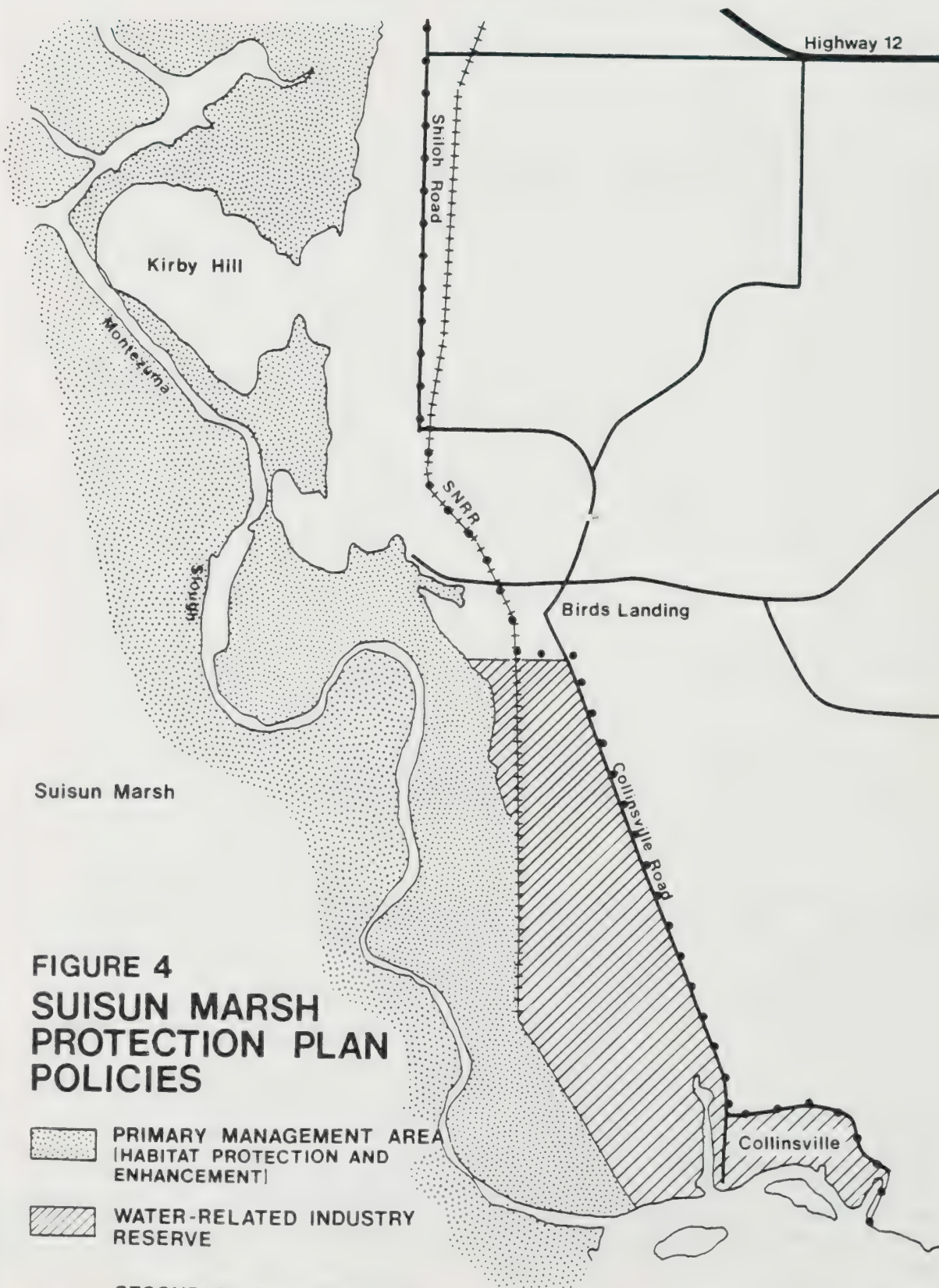


FIGURE 4
SUISUN MARSH
PROTECTION PLAN
POLICIES

 PRIMARY MANAGEMENT AREA
 (HABITAT PROTECTION AND
 ENHANCEMENT)

 WATER-RELATED INDUSTRY
 RESERVE

• • • SECONDARY MANAGEMENT
 AREA BOUNDARY

0 1 Mile 

lowland grassland has potential for restoration to higher value marshland by removing dikes and reintroducing tidal action or by conversion to managed wetland status.

Water Dependent Industrial

Permitted Uses

All uses to be permitted within the three water-dependent industrial designations must comply with the general land use criteria set forth in this section and with the more specific land use, transportation and development requirements set forth in the subsequent section on Subarea Land Use and Transportation policies. Industrial uses to be permitted must also fit the County's definition of a water-dependent use. Additionally, those lands within the area designated as "Water-Related Industry Reserve Area" within the Suisun Marsh Protection Plan may be limited by the provisions of that plan and the San Francisco Bay Plan.

Commercial Recreation

Approximately 120 waterfront acres at Collinsville have been designated for Commercial Recreation land uses, as shown in Figure 2. Construction of a marina and the development of complementary, water-related commercial recreation facilities are permissible within this designation for limited time periods if such uses would not conflict with ultimate water-dependent industrial use. It should be noted that the San Francisco Bay Plan and the Suisun Marsh Protection Plan designate the entire area for water-related industrial use, and any use proposed for this location must be reviewed for conformity with these plans and implementing regulations. Great care must be taken to ensure that such uses are compatible with the primary activity of the waterfront--water-dependent industry. The feasibility of commercial recreation uses will significantly increase with the introduction of improved access provisions as proposed to serve waterfront industrial development. This area should provide a focus for public access to the water while preserving the Collinsville townsite.

Shoreline Recreation

On the western edge of the planning area, in the Kirby Hills west of Shiloh Road and south of the Little Honker Bay Road, the opportunity exists for certain marsh oriented passive recreational activities. Although the dominant use of this area is intended to be agriculture, there are limited oppor-

tunities for upgraded boat launching facilities, wildlife observation accommodations, as well as other passive recreational facilities. These uses should not conflict with the agricultural uses of the area, nor should they introduce human activities of such intensity so as to adversely affect marsh wildlife habitat.

Transportation

Railroad Branch Line Track

Construction. Where the proposed rail route bisects wetland areas east of Collinsville Road opposite the Clank Hollow drainage, the track should be constructed in a manner which allows for the natural movement of water and wildlife beneath the alignment. Conversely, rail construction between Montezuma and Collinsville should be constructed atop a levee or impervious barrier to protect wetlands and wildlife against adverse industrial impacts and to protect industrial development from flooding.

Hazardous Cargo Transport

Although transportation of hazardous cargo is governed by a number of state and federal agencies, it is important that the County be cognizant of such potential hazards due to the planning areas proximity to the Suisun Marsh. Specific procedures which will minimize or eliminate potentials for harm to natural resource values or human life and property from accidental spills of damaging industrial materials must be developed and demonstrated to those responsible agencies by an industry which proposes to transport such a cargo to and from the planning area. All permit applications by industrial owners must include specific evidence of compliance with the U. S. Department of Transportation, Code of Federal Regulations Title 49 and such State, County and Municipal regulations which may be in effect at the time of application. Spill prevention procedures must place special emphasis on protecting the Suisun Marsh from exposure to spill-contaminated waters and on protecting urban areas (Rio Vista, Suisun City, Fairfield, etc.) from spill-related hazards associated with land transport.

The planning area transportation system (roads, rail, berths, pipelines) must be constructed in a manner which minimizes the likelihood of mishaps involving hazardous cargoes. Design measures for road and rail safety should include limitations on grades, curves, and intersectional conflicts, visibility characteristics, surface conditions, and speed.

The following measures should be considered by the County in

determining the adequacy of proposed programs to prevent hazardous cargo mishaps.

Berth facility designs must include systems for routine booming during loading and off-loading of volatile or toxic liquid cargoes and equipment for effective containment and recovery of spilled materials. Containment and recovery systems must be capable of (a) performing effectively in up to five-foot wave heights and in two-knot river currents, and (b) containing and recovering or clearing all types of cargoes of a harmful nature which will be loaded or off-loaded in significant quantities.

All loading and off-loading systems must also be equipped with both automatic and manual emergency shut-off valves at the berth and on the shore.

Berth facilities must include navigational aids and dock or berth safety provisions to reduce the likelihood of accident and damage, including radar reflectors, special lighting, fire protection systems, and adequate security provisions.

The most effective design measure for berth construction is the concentration of ship loading activity into clustered, parallel berth facility areas, as recommended in this plan. Berth concentration effectively achieves the following:

- . reduces the number of points of navigational conflict along the Sacramento River Ship Channel and allows installation of more elaborate and effective ship traffic navigation systems than would be possible for individual berth locations dispersed along the 12 mile shoreline for each water-related industry;
- . allows for more efficient and effective control by the U.S. Coast Guard of vessel traffic movements, traffic monitoring, and supervision of the handling and stowage of harmful cargoes: and
- . allows for installation of more elaborate permanent spill containment and cleanup systems.

Prior to the approval of new pipelines for the conveyance of hazardous liquids or gases which cross suspected fault zones, liquefaction-prone lands, or other potential ground failure areas, specific site investigation by a qualified engineering geologist must determine that (a) no ground failure potential exists, or (b) no reasonable alternative routes are available. In the latter case, the pipeline design must include valves, switches and other equipment appropriate to ensure rapid emergency repairs to minimize the potential for mishaps.

It should also be required that spill contingency plans contain non-design measures which address all modes of hazardous cargo transport including both water and land systems (road, rail, and pipeline modes) in order to prevent hazardous cargo mishaps.

Recreational Access

In light of the considerable length of the area designated in this plan for water-dependent industrial and commercial recreation uses, development of these areas should be designed and constructed in a manner which ensures the maintenance of public access to the shoreline. The state's desire to ensure that public access to such estuarine waters will always be attainable was recently established in California Constitution, 1977-78 (ARTICLE 8, Sec. 4., new section adopted June 8, 1976):

No individual, partnership, or corporation, claiming or possessing the frontage or tidal lands of a harbor, bay inlet, estuary, or other navigable water in this State, shall be permitted to exclude the right of way to such water whenever it is required for any public purpose, nor to destroy or obstruct the free navigation of such water; and the Legislature shall enact such laws as will give the most liberal construction to this provision, so that access to the navigable waters of this State shall be always attainable for the people.

In carrying out the requirements of the California Constitution and to accommodate the increased recreational activity needs generated by projected regional growth, maximum public access and recreational activities should be provided for consistent with public safety needs and the desire to protect wetland habitat values. Allowable land uses along the shoreline of designated water-dependent industrial, commercial recreation and shoreline recreation areas, with the exception of water-dependent industrial designations west of the Collinsville Inlet, may be required to provide adequate public access.

For each shoreline development proposal within the water-dependent industrial area, provision for shoreline accessways should be considered before or at the time of development and may be required by the County for public access points along the river front. Public access to and along the waterfront should be provided wherever feasible, unless it will result in interference with industrial activities or hazards to the public.

Subarea Land Use and Transportation Policies

Wetland Protection Subarea

The wetland protection subarea is designated on the Plan Map as wetland habitat. The designation includes roughly 3,720 acres of low-lying, flat wetlands. Wildlife habitats within these wetland areas are highly valued for their biotic significance and are characterized by a low endurance to disruption by development. The designation includes existing permanent marsh (35 percent of the area), seasonal marsh (20 percent), and lowland grasslands below the ten foot contour which may be restorable to a marsh condition (45 percent).

This subarea is adjacent to the Montezuma Slough and is included within the "primary management area" of the Suisun Marsh system as designated in the Suisun Marsh Protection Plan by BCDC. Since adoption of the BCDC plan by the state legislature, allowable uses within this area are limited to existing activities which are consistent with protection of the marsh. For example, extensive agricultural uses now predominant in the area will be allowed to continue on dry lands since these uses can provide extended habitat areas for wetland-dependent wildlife.

The wildlife protection subarea is currently held in twelve ownerships. All are privately owned and two are held by industrial interests including a segment of the Sacramento Northern right-of-way and the largest portion of the subarea (roughly 50 percent) which is owned by National Steel/Southern Pacific.

Increasing pressures to develop these wetlands for industrial uses may be created by their proximity to the Sacramento River Deep Water Ship Channel, by their level topography, by adjacent waterfront industrial use designations of this plan, by the transportation infrastructure which has been specified to support these designated industrial areas, and by the fact that the Bay region inventory of undeveloped land next to deep water ship channel is dwindling.

Land Use Policies.

All lands within this subarea must be managed to protect and enhance the quality and diversity of wildlife habitats. Specific land uses within the designation must be limited to those which do not interfere with the protection and enhancement of wetland wildlife habitats. Agricultural activities which now occur, such as dry farming of grain and sheep, should continue, provided that such activities do not exceed sound wetland management practices.

Where feasible, historic marshlands below the current ten foot contour which in the past have been diked off from tidal action for agricultural purposes should either be returned to their original wetland status or converted to managed wetlands by removing portions of levees and reintroducing tidal action.

The protection of this wetland area will provide a needed buffer between the Suisun Marsh and planning area industrial development.

Transportation Policies.

Where the existing railroad right-of-way separates the wildlife protection subarea from the Clank Hollow drainage area east of the tracks, new railroad improvements which have been specified in this plan (see Figure 5) should include structural solutions which allow for free movement of water and wildlife between the two sides of track, such as an open trestle or culverts.

Western Industrial Subarea

Clank Hollow Drainage. The Western Industrial Subarea also includes a portion of land identified in Figure 5 as the "Clank Hollow Drainage", where a major planning area drainage joins with the wetlands to the west of the railroad right-of-way. This small drainage area is a seasonal marsh and is defined by the ten foot contour. Planning area seasonal runoff water from Clank Hollow drainage collects here in ponds. Under normal conditions, the area usually remains damp nine months of the year.

Development Requirements

Industrial development which is allowable under the land use policies of this subarea should conform to the following development criteria:

1. Filling of low-lying lands designated in Figure 5 as "flat lowlands" is permissible for purposes of leveling and improvement of soil stability and site drainage when part of an engineered fill for a proposed water related industry. Disposal of dredge spoils from new ship channel construction to this site should be allowed here in order to make the site usable for such industrial purposes and to reduce the cost of providing ship access to the site. Spoils deposits should also be properly engineered to avoid problems with settlement and liquefaction.

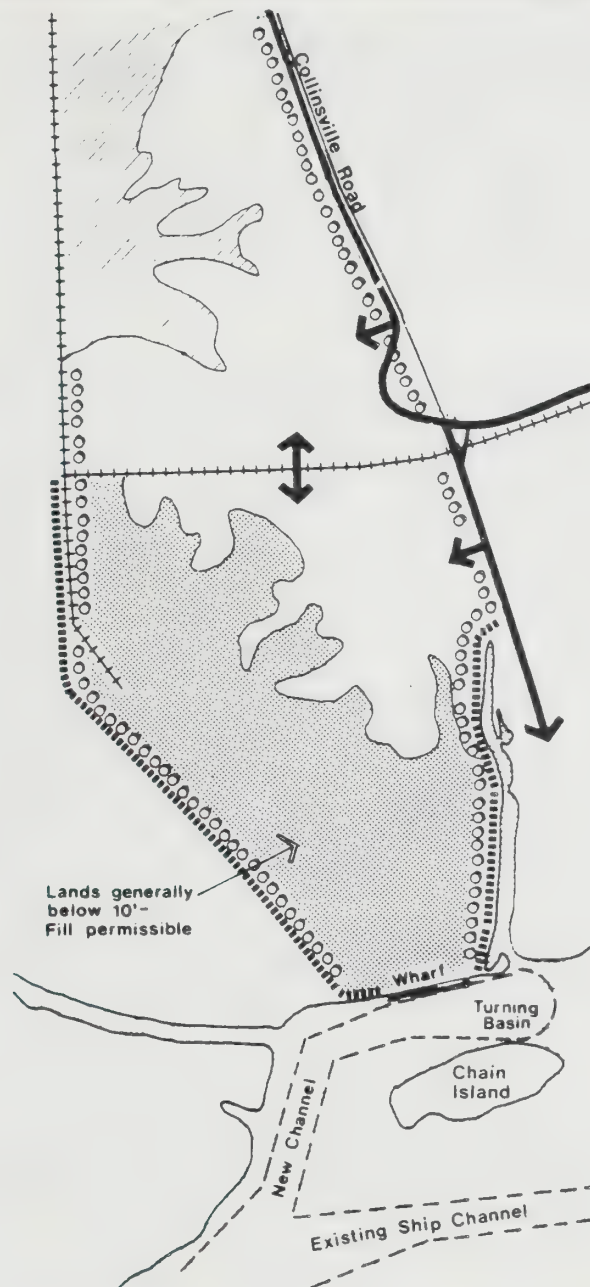
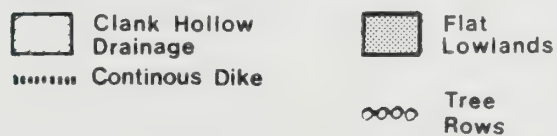


FIGURE 5
WESTERN INDUSTRIAL
SUBAREA



2. An impervious dike should be constructed around the entire industrial area as indicated by Figure 5 to protect adjacent habitats from contamination and to protect the industrial use from flooding. All surface runoff (drainage) from the diked area should be retained and treated to acceptable federal, state and regional standards prior to discharge into either the Collinsville Inlet, surrounding marshes, or the Sacramento River.
3. Landscaping in the industrial area should be determined by the character of industry and the layout of the development. In certain cases, attempts to screen the main industrial structures from view will be inappropriate. The intent instead should be to emphasize the strong rectilinear forms of the industrial structures, letting these contrast with the surrounding land forms. In other cases it may be appropriate to fit and blend industrial structures into the surrounding landscape with appropriate landscaping, such as groupings of columnar deciduous trees. Along the Collinsville inlet and the dikes adjoining the wetland areas, rows of columnar, deciduous trees such as Lombardy Poplar may be planted as a visual screen to provide a transition in scale and demarcation from adjoining wetland habitat and commercial recreation areas.
4. The introduction of a noise-emitting industrial land use shall include noise mitigation measures which result in the following noise emissions maximums:
 - a. 60 dBA (A-weighted) as measured at the western boundary of the industrial property.
 - b. 60 dBA (A-weighted) as measured at the boundary of the nearby Collinsville commercial recreation area.

Eastern Industrial Subarea

Development Requirements

Industrial uses which are allowable under the land use policies of this subarea should conform to the following development criteria:

1. All permanent and seasonal marsh areas east of the Marshal Cut should be protected against adverse effects on their habitat value. Preemption of wetland areas west of the Marshal Cut may be permitted, provided

that this habitat loss will be offset by maintenance of existing lowland areas east of the Marshal Cut or restoration of other wetlands.

2. A recommended "building setback line" is indicated in Figure 6. Its alignment is governed by identified shoreline habitat values and vulnerabilities. Additional exceptions to this habitat-protecting limitation may be made where necessary to maintain riparian rights.
3. All surface water runoff (drainage) from a developed industrial holding should be diverted, retained, and adequately treated to mitigate any industry related contamination, before being discharged into the Sacramento River.

Collinsville Commercial Recreation Subarea

As shown in Figure 7, the Collinsville subarea encompasses roughly 120 acres of lowland grassland and includes the Collinsville Inlet and the old settlement of Collinsville. The Collinsville Inlet was used to serve a dockside sugar beet refinery and cattle stock yard with river barge access. These operations are now defunct. The settlement of Collinsville forms the terminal focus of Collinsville Road. Once a small fishing community, it is now exclusively single family residential with a number of vacant, dilapidated old homes which are remarkable for being built on piers several feet off the ground to avoid flooding waters. These structures are interspersed with vacant lots. Approximately 43 of these parcels are included in an area of less than 30 acres.

Shoreline portions of the Collinsville subarea, including the existing settlement of Collinsville, are interspersed with isolated pockets of permanent and seasonal marsh. These lowland shore areas are noted for their habitat values, susceptibility to flooding, and poor soil stability. On the other hand, all interior lands of the subarea are underlain by stable soils and are not in the flood plain.

The Collinsville subarea has unique potentials for water-related recreational use due to its proximity to the Montezuma Slough and the convergence of the Sacramento and San Joaquin Rivers, and to the sheltering effects of Chain and Montezuma Islands from estuarine wave action. With the introduction of a primary loop road near the site for industrial purposes, regional access will be greatly improved, creating increased demands for water-oriented commercial recreation uses at this location.

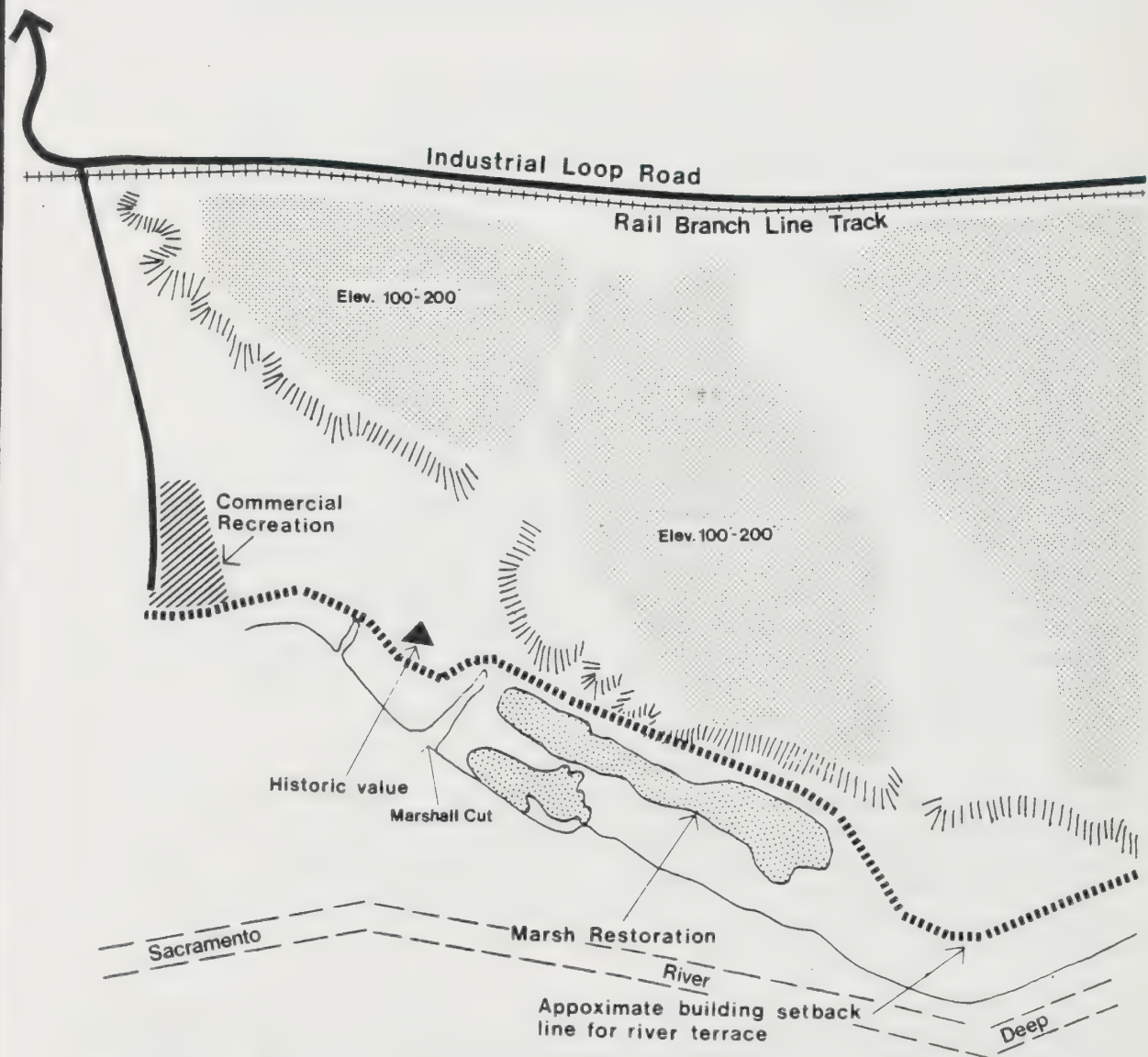


FIGURE 6
EASTERN INDUSTRIAL SUBAREA

- Suggested terraced areas
- Approximate building setback line

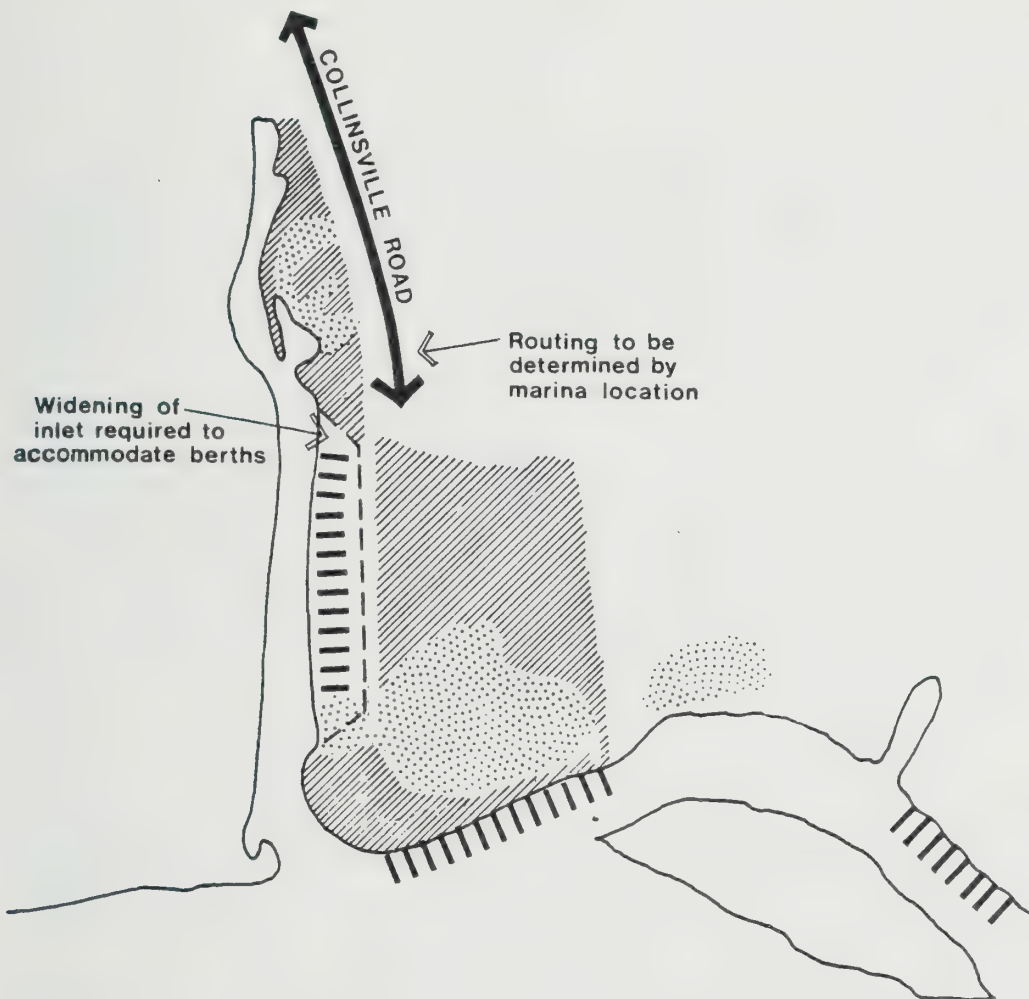
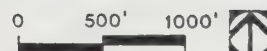


FIGURE 7
COLLINSVILLE SUBAREA



Two of three possible alternative sites discussed in this plan for marina development are within the Collinsville commercial recreation subarea, and a third site at Collinsville Resort is one quarter mile to the east.

Land Use Policies

Lands comprising the existing settlement of Collinsville should be designated to accommodate commercial recreation land uses. Increasing demands for such uses will focus here when construction of improved access roads is complete and if development of one of the possible marina sites becomes feasible. Water-oriented commercial recreation development and a nearby marina would be highly complementary land uses.

The area designated in Figure 7 for commercial recreation land uses should be reserved for small-scale, water-oriented development. In addition to a marina, specific uses permitted should include restaurants, commercial lodging, retail shops to serve recreational uses of the area, boat sales, a boat launching ramp, and facilities for boat construction and repair. Residential uses on previously platted parcels should be permissible, however, residential development should not foreclose potential commercial recreation uses and marina development.

Transportation Policies

Of the three designated alternative marina locations, the preferred location, if it is found to be feasible in terms of dredging and channel maintenance costs, is the Collinsville Inlet. Advantages of this site include more direct road access, fewer conflicts with wetlands, good storm protection for boats, less land access interference with industrial activities, and closer proximity to complementary commercial recreation development.

Precise routing of necessary Collinsville Road improvements should await resolution of marina development plans.

Dedication provisions may be required in commercial shoreline development proposals to ensure the possibility of future public accessways to the waterfront.

Development Requirements

To the extent possible, existing pockets of wetland should be preserved through use of pile or pole types of construction. Such techniques will also promote continuation of the present

and rather unique character of the settlement of Collinsville. Where elimination of wetland pockets is necessary to accommodate demands for commercial recreation uses, mitigation should be provided by the developer through assistance in the restoration of tidal action to lands in the Wetland Habitat Subarea which can become a more significant, integrated part of the Suisun Marsh system. Such offset marsh restoration could be done directly or by means of an in-lieu payment.

Small-scale, water-oriented commercial recreation development can be introduced here in a manner which is compatible with the character of the Collinsville settlement, with its vista of the Sacramento River, its residential uses, and the few abandoned structures that exist there. Retention and proliferation of the roadside facades which provide the focusing effect of Collinsville as an approach and gateway to the river should be encouraged.

In order to protect the Collinsville townsite and at the same time avoid placing undue constraints upon the development of the area's principal permitted use, a buffer shall be established around the townsite. On the western side of the townsite, the buffer extends from the boundaries of the existing parcels outward to the eastern bank of the Collinsville Inlet. On the northern and eastern sides of the townsite, the buffer extends 500 feet from the boundaries of existing parcels. Within buffer areas, no major industrial buildings or structures can be constructed, nor will outdoor industrial storage be allowed. Areas within the buffer can be used for landscaping, parking, or commercial recreation. Docking facilities, minor industrial structures or other uses are also allowed when found by the County during project consideration to be compatible with townsite protection.

North of Stratton Lane are two small cemeteries which have served the old townsite. A buffer around these two historical sites shall be required on surrounding industrial properties at the time of project consideration. The buffer can be provided by landscaping or by appropriate site plan design conditioned such that the impacts of development of adjoining industrial properties are minimized.

Agricultural Subarea

Land Use Policies

Certain passive recreational activities are permissible in the northwest portion of the designated agricultural area west of Shiloh Road and south of Little Honker Bay Road. A number of open space recreational values are localized here

including wetland habitats and opportunities for Suisun Marsh overlooks and Montezuma Slough oriented activities (boat launching, etc.). Recreational improvements should be encouraged, but should be limited to, wildlife observation/interpretation activities, boat launching facilities and necessary off-road parking. Lands within the recreational open space boundary should be managed and used in a manner which is compatible with the concurrent continuation of their existing agricultural use. The principal riparian habitats of the agricultural area should be protected against adverse effects associated with farming activities. In particular, adverse water quality and habitat impacts on the Sacramento River, Montezuma Slough, and Suisun Marsh must be avoided. Special attention should be given to the prevention of contamination of the Clank Hollow, Lucol Hollow, Hopkins Ravine, Toland Lane and other similar drainages. These drainages must be protected from runoff contamination by pesticides, fertilizers, and other agricultural materials and the resulting damage to downstream wetland habitats. Thus, no intensive agricultural uses should be permitted in these drainages unless measures are taken which will ensure against such contamination.

IMPLEMENTATION

PLANNING AND REGULATORY STEPS

Dedication Requirements

1. Dedication of public accessway easement shall be considered before or at the time of development and may be required by the County for access to the riverfront.
2. If a property owner so desires, wetland areas designated for preservation may be dedicated to an appropriate party to assure proper management of these areas in conjunction with the adjoining Suisun Marsh.

SCENIC ROADWAYS ELEMENT

POLICIES

The general and specific policies set forth below provide a series of guidelines to be used by the County in its land development guidance procedures. It is the intent that these provisions be employed as criteria to be adhered to by all future land development which falls within the visual components of any of the designated scenic roadways. All applications for suburban or urban uses (all major subdivisions with densities greater than five acres per dwelling unit and commercial/industrial developments) should be reviewed for compliance with these provisions. In agricultural areas, current zoning provisions which are supportive of these aims should be retained. Where present agricultural zoning provisions promote land use patterns at variance with these general and specific policies, modifications should be made to achieve consistency with the Scenic Roadway Element.

General Requirements

The following general policies apply to all foreground and distant view components of all designated scenic roadways:

1. Current general plan provisions of the county which designate foreground and distant view components of scenic roadways for agricultural and other open space uses should be retained.
2. The number of man-made interruptions or incidents along a scenic roadway (housing, commercial uses, signs, driveways, etc.) should be limited to maintain

the current visual values as the prevalent feature of the route. Individual driveways and garages, for example, should not connect directly with a scenic roadway unless necessitated by severe topographic constraints. Rather, they should combine before intersecting with the scenic route to minimize visual and functional disruption.

3. Placement of off-site advertising along a designated scenic roadway should be prohibited, except where provisions are made, as part of a standardized, public, onroad sign program, for providing signing within the roadway right-of-way for roadway related services. Such a program could provide a series of signs of similar design, identifying food, lodging, and other road-related services by type and by the symbol or logotype of the proprietor (Shell Oil, Western Motel, McDonald's, etc.).
4. The county and cities should institute a special program of roadside maintenance (landscape maintenance or replacement, litter retrieval, etc.) along scenic routes, recognizing the fact that the immediate roadside environment has a great impact on the motorist and tends to color his or her total scenic roadway experience.
5. Pullovers with litter cans should be provided at regular intervals throughout the scenic roadway network for convenient disposal of litter. Special points of interest such as outlooks, creeks, lakes, clusters of roadside shade trees, etc., should be favored in locating pullover sites. Pullovers should be located and designed to minimize possible conflicts with nearby agricultural uses (orchard pilfering, frightened stock, etc.).

Specific Policies

All designated scenic roadways should be subject to a combination of specific policies based on the composition of each visual unit along the route. The combination of policies associated with the foreground and distant components of each visual unit (and with any special features) as noted on the plan diagram apply to all development that falls within view of the designated scenic roadway.

The foreground component of each visual unit (up to one quarter mile from the road edge) is subject to the related specific policies listed below:

Foreground
Component

Specific
Policies

B. Marshlands

Intensive development cannot be visually absorbed into a marsh landscape without seriously disrupting the delicate foreground and unprotected background view components. Intensive development here can also result in disruption of the local ecosystem which supports the marsh and its unique and delicate visual character.

1. Immediately adjoining dryland and upland within and around a marsh should remain in open space use (grazing, cropland, or other extensive uses).
2. Existing animal and vegetative habitats should be protected from encroachment due to their own visual value and their role in maintaining the marsh ecosystem and its overall scenic value.
3. Public roadway construction and improvement activities should be subject to restrictions permitting the natural water movement necessary to sustain the marsh environment.
4. Since such a flat and expansive natural environment tends to exaggerate vertical elements, undergrounding of utility lines is highly recommended.

C. Eucalyptus
Windbreaks

1. Maintenance and protection of existing windbreaks should be encouraged to provide a contrasting visual element on flatland landscapes and to call attention to distant farm development or to places where major changes occur in the alignment or the scenic roadway.
2. Where appropriate, expansion or addition of new windbreaks should be encouraged to identify distant changes in visual units, road alignments, land use activities, etc.

HEALTH AND SAFETY ELEMENT

SPECIFIC POLICIES

Flood Hazards

Specific Policies For Upstream Land Use

The following upstream land use and conservation policies serve to mitigate such stormwater inundation potentials by minimizing encroachment on natural drainage courses and increases in the rate of runoff caused by upstream land development:

1. Wherever possible, upstream watersheds should remain essentially devoted to open space land uses such as recreation and extensive agriculture (grazing).
2. The following upstream land use practices often contribute to increased rates of surface water runoff and should therefore be prevented or regulated:
 - a. Overgrazing by livestock.
 - b. Logging, clearing, burning, and other activities which can reduce natural vegetative cover.
 - c. Construction of extensive impermeable surfaces (large developments which might include a number of structures, patios, dwellings, roads, etc.) over naturally permeable soil and geologic areas.
3. Upstream land use controls shall be formulated to protect riparian corridors (the stream, its banks, and

creekside vegetation) from encroachment and degradation by development.

4. No development shall be permitted which would interfere with existing channel capacity or would substantially increase erosion, siltation, or other contributors to the deterioration of any watercourse.

POLICIES REGULATING SEWAGE DISPOSAL SYSTEMS WITHIN THE SUISUN MARSH

INTRODUCTION

In 1977 the State Legislature adopted the Suisun Marsh Preservation Act (AB1717) which mandates that local government brings its policies and regulations into conformity with the provisions of the Act and Suisun Marsh Protection Plan. Portions of the Act and Plan were directed toward maintenance of water quality through controls on individual sewage disposal systems, a responsibility of the Solano County Department of Public Health. This document is the Department's response to the State mandate. It is a part of Solano County's Component of the Suisun Marsh Local Protection Program.

REQUIREMENTS OF THE MARSH PRESERVATION ACT

The specific requirement directed to the Solano County Department of Public Health is found in the following section of the Marsh Preservation Act:

§ 29401. Within the Marsh the Local Protection Program shall include but not be limited to...

- (c) enforceable standards for the operation of septic tanks and wastewater discharges.

The basis for this requirement is found in Policy #5 of the Utilities, Facilities and Transportation Section of the Suisun Marsh Protection Plan which states;

5. Because septic tanks do not function properly in the wetland area, the Solano County Department of

Public Health should institute a program to close out existing tanks in the wetlands and require new systems that would properly dispose of wastes as required by the Solano County Health Department and the Regional Water Quality Control Board.

The Health Department has responsibilities in the Marsh in addition to the control of wastewater discharges from septic systems. Other responsibilities include control of waste disposal sites, waste water discharges and litter-garbage disposal. These matters are important but they are not dealt with here because either the Marsh plan does not identify them as significant problem areas or the departmental responsibility for enforcement has been preempted by the Regional Water Quality Control Board. For example, the San Francisco Regional Water Quality Control Board has control over wastewater discharges from waste disposal sites, sewage treatment plants and waste-water reclamation for marsh enhancement although the Department does have permit control over various aspects of these operations.

Based upon the requirements of the Act and Marsh Plan, the Health Department's portion of the component should consist of a demonstration that there is a mechanism to control waste discharges and that the Department has a program to close down malfunctioning private disposal systems in the Marsh.

CURRENT DEPARTMENT OF PUBLIC HEALTH REGULATIONS:

In 1975, Solano County enacted an ordinance (No. 888) to regulate individual sewage disposal systems. This ordinance which was approved by the San Francisco Regional Water Quality Control Board, controls the installation and operation of septic tank/leachfield systems within the Suisun Marsh. The regulation requires a permit from the health department for the construction or alteration of any structure for human use when the structure is not connected to a public sewer system. It sets minimum criteria by which a septic tank/leachfield system may be established, including percolation rate, soil depth, depth to ground water, ground slope, minimum size building lots, and minimum disposal areas. If the criteria are not met, then an alternative disposal system which will not contaminate may be established. The ordinance also provides a procedure for suspending or revoking permits for a number of causes.

As indicated in the Marsh Plan, septic tank/leachfield systems do not operate at optimum efficiency in wetland areas. However, a blanket statement cannot be made that all systems malfunction, creating a wastewater discharge. A number of systems in the Marsh have functioned properly for many years without damage to the environment and they may continue to do

so for many more years. Where it is demonstrated that such systems operate properly they should be allowed to continue. Systems which do not operate properly should be closed down and replaced by systems which will properly dispose of wastes. The mechanism to implement this program is embodied in the County's individual sewage disposal system ordinance.

Ordinance 888 requires the Solano County Department of Public Health to inspect waste disposal systems in the County every five years. It further provides that inspections may be required more frequently in areas determined to be susceptible to septic tank failure. Where a system has been inspected and found to be malfunctioning, a program and timetable are established to correct the malfunction. The kind of remedial action taken depends upon the situation. In some cases, it may be necessary to replace the septic tank/leachfield system with a holding tank which is pumped out periodically. Other solutions are being tried, as well, depending upon the individual situation.

Due to staff cutbacks the Health Department has not been able to pursue its inspection program as vigorously as it would like. The Department has responded to specific requests of owners of property in the Marsh to improve systems and has worked with these people to alleviate problems. System improvements are also made when facilities are installed or expanded. It is not known at this time how soon the inspection program can be completed, however, it will be completed as soon as possible.

DEPARTMENT OF PUBLIC HEALTH POLICIES TOWARD INDIVIDUAL SEWAGE SYSTEMS IN THE SUISUN MARSH:

1. Property owners within wetland areas are urged to seek departmental assistance to alleviate potential water quality problems resulting from malfunctioning individual sewage systems.
2. In accordance with provisions of the Solano County Code, it is departmental policy to inspect septic tank/leachfield systems in the Suisun Marsh every five years to determine whether such systems are functioning properly.
3. Where it is determined that an individual sewage system does not function properly, the nuisance shall be abated and if appropriate replaced with a workable system.

CHAPTER III
ORDINANCES
IN THE
SOLANO COUNTY CODE

III. ORDINANCES IN THE SOLANO COUNTY CODE

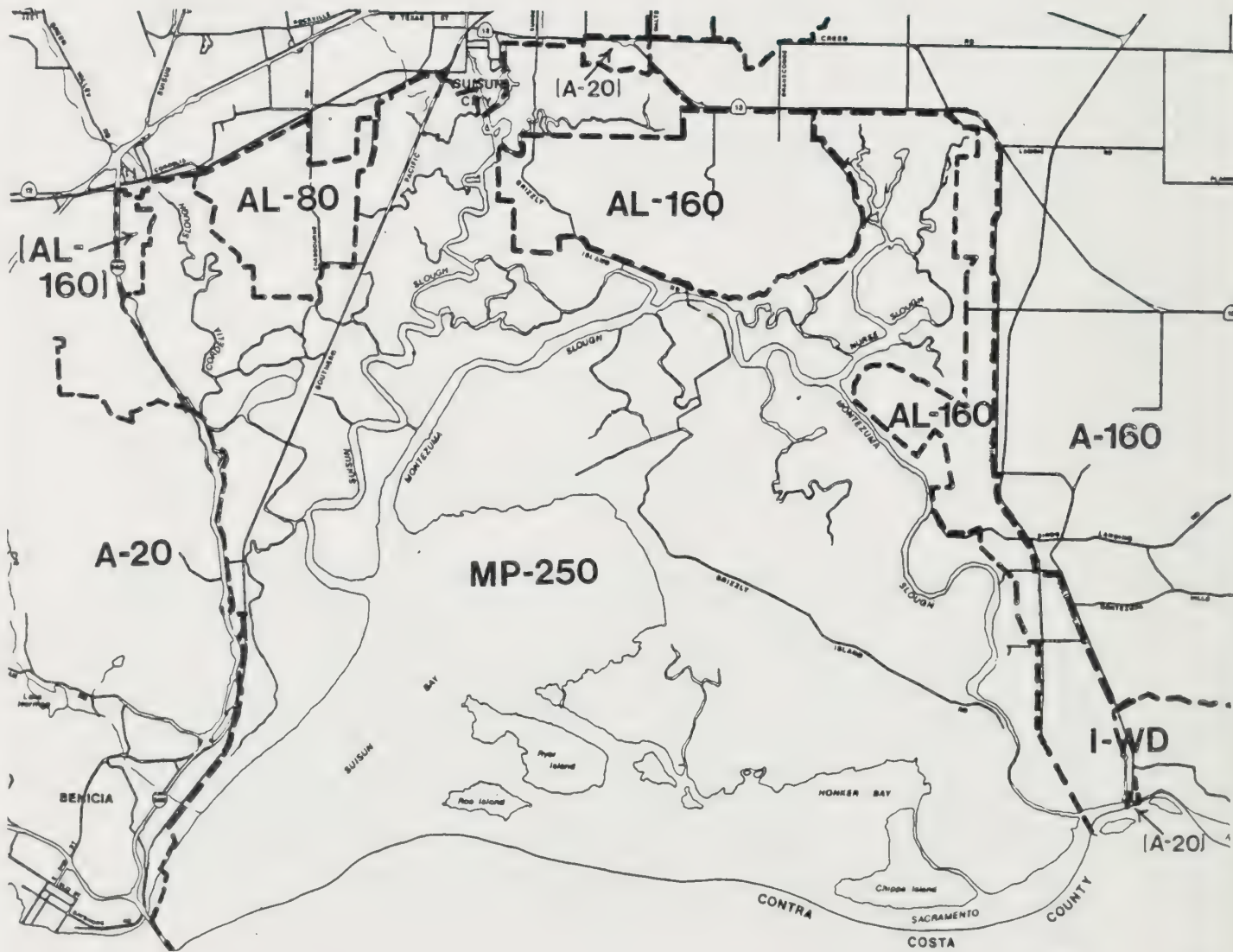
ZONING

CHAPTER 28

Application of Zoning Districts

In preparing its Local Protection Program, the County rezoned a number of areas within the Marsh to provide enforceable land use controls consistent with Marsh Act provisions. Three new zoning districts were added to the Solano County Code. Consistent with the General Plan and Marsh Act these zones are then applied as follows: the Marsh Preservation District (MP) was to the Primary Management Area; the Limited Agricultural District (AL) to portions of the Secondary Management Area and the Water Dependent Industrial District (IWD) to that portion of the Secondary Management Area designated Water Dependent Related Industrial Reserve. The areas which were rezoned are shown on Figure 8. The provisions which govern uses within these zones are contained in subsequent excerpts from the Solano County Code.

**Figure 8 Suisun Marsh
Zoning Districts**



Sec. 28-10.6. LIMITED AGRICULTURAL (A-L) DISTRICTS.

- (a) The Board of Supervisors finds that agriculture is an essential natural resource which is a major contributor to the economic well-being of Solano County. In addition, certain agricultural lands serve an important function in buffering contiguous environmentally sensitive lands from the effects of urbanization. In order to prevent further encroachment upon such agricultural lands by incompatible uses of property and for the general welfare of the County as a whole, there is hereby created a zone classification within which limited agriculture shall be encouraged to the exclusion of such other uses of land as may be in conflict therewith.

The provisions of this section shall be strictly interpreted to provide maximum protection to such agricultural areas. It is the intention of this section to deter developers from considering lands within the A-L zone as a potential urban development property, and it is further understood that there is no reasonable probability of the removal or modification of this zoning restriction within the near future.

The purpose and intent of the A-L district is to preserve lands best suited for permanent agricultural use while limiting certain intensive agricultural practices which may conflict with adjoining sensitive lands. Types of uses encouraged within A-L districts are extensive agricultural operations consisting primarily of grain and hay crop production, irrigated and non-irrigated pasture, and grazing operations harmonious with adjoining marshes, wetlands, grasslands, or other sensitive lands.

A primary intent of the A-L district is to assure the retention of upland and lowland grasslands adjacent to the Suisun Marsh in uses compatible with its protection. Any development within the Suisun Marsh as defined by Section 29114 of the Public Resources Code, may be subject to obtaining a Marsh Development Permit pursuant to the Suisun Marsh Preservation Act of 1977, and as provided for in Section 28-26.5 of this Code.

- (b) Uses allowed:

- (1) Agricultural uses, with emphasis on grain and hay crop production, pasture and grazing, except that those uses indicated in subsection (c) of this section may be established only after a use permit shall have first been secured.

- (2) Processing of products produced on the premises.
 - (3) Buildings and uses clearly accessory or incidental to any permitted use located on the premises, including a one-family dwelling or manufactured dwelling, barns, private stable, sheds, and other farm buildings.
 - (4) Three (3) on-site signs with a total combined area of 60 square feet appurtenant to any permitted use; provided, that no sign shall be permitted to overhang the public right-of-way, nor shall any sign be permitted which moves, blinks, flashes, oscillates, rotates, pulses in sequence, or is wind-driven or otherwise animated.
 - (5) Signs not exceeding six square feet in area for each building site advertising the sale or lease of property upon display.
- (c) Uses permitted, provided the conditions for a use permit as set forth in section 28-27 are fulfilled:
- (1) Animal feed yard, poultry operation of more than 100 birds, commercial kennel for dogs or cats.
 - (2) Solid waste disposal site in conformity with Section 29409 of the Public Resources Code.
 - (3) Public stable, horse show, lodge, club or resort for swimming, boating, fishing, hunting or shooting, and similar types of uses as may be determined by the Planning Commission.
 - (4) Public service facility.
 - (5) Repealed by ordinance No. 1191.
 - (6) Rural resident enterprise.
 - (7) Additional dwellings for persons employed on the premises when such residential use is clearly accessory or incidental to the agricultural use of the site.
 - (8) Extraction and removal of minerals or natural materials from quarries and borrow areas existing as of January 1, 1982.
- (d) Minimum parcel area required:

<u>ZONE</u>	<u>MINIMUM PARCEL AREA</u>
A-L - 80	80 Acres
A-L - 160	160 Acres

- (e) Minimum front yard required: Thirty (30) feet; except that buildings shall not be less than 50 feet from the center line of the street, and unless otherwise indicated by building lines on the zoning maps.
- (f) Minimum side yard required: Twenty (20) feet.
- (g) Minimum rear yard required: Twenty-five (25) feet.
- (h) Special yards and distances between buildings required: Accessory buildings shall not be less than 60 feet from the front property line, nor less than 20 feet from any side or rear property line, nor less than 10 feet from any dwelling unit on the property.
- (i) Maximum building height: Thirty-five (35) feet; provided, that additional height may be permitted for non-dwelling structures, including windmills, silos, private water tanks; and provided further, that no such structure shall exceed the heights allowed in Section 28-33 of this Code if located in an airport flight obstruction area.

Sec. 28-23.3. WATER DEPENDENT INDUSTRIAL (I-WD) DISTRICT.

- (a) The Board of Supervisors finds that certain waterfront lands within Solano County are of statewide and regional significance because they are among the few remaining deep-water sites suitable for water-dependent industries. Furthermore, significant agricultural and marsh lands are nearby resources which the County is committed to preserve. For this reason, the water-dependent industrial district is established to reserve waterfront lands for large-scale, water-dependent industries to assure the efficient use of waterfront industrial sites and to ensure that impacts upon nearby environmentally sensitive lands are minimized.

The provisions of this Section shall be strictly interpreted to assure that only those industries which depend on a waterfront site are to locate within this district. It is expressly understood that prior to consideration of any industrial proposal within the district, the Planning Commission shall determine the industry's need for a waterfront site and assure its conformance with the provisions of the Solano County General Plan, this chapter and, where applicable, the Suisun Marsh Preservation Act of 1977. Industries seeking to locate in the area designated Water Related Industrial Reserve on the Suisun Marsh Protection Plan Map are to be governed by the definition of water related industry contained in the San Francisco Bay Plan. Those industries which are not considered to be water dependent may continue to locate within other industrial districts.

- (b) Uses allowed:

Agriculture as an interim use, and buildings and uses clearly accessory or incidental to such use, except that those uses indicated below, may be established only after the conditions for a use permit, set forth in Section 28-27, are fulfilled.

- (1) As an interim use: animal feed yard, poultry operation.
- (2) Oil and gas wells.
- (3) Dredge disposal site.
- (4) As a limited term use within the area designated for commercial recreation use on the General Plan: Marinas, including boat harbor, boat launching facilities, boat and boat trailer storage; boat con-

struction, servicing, sales, repair; commercial lodging; restaurants and refreshment stands; water related recreational shop, store and service for retail sales when conducted entirely within a building.

Where a use is granted pursuant to a planned unit development, the further requirement for a use permit is waived.

- (c) Uses allowed provided the conditions for a planned unit development permit, set forth in section 28-25, are fulfilled:
- (1) Waterfront Storage Facility. Ship cargo storage and handling facility, including storage of raw materials, which are contiguous and have a functional relationship to a berthing facility.
 - (2) Waterfront Manufacturing or Processing Facility. Manufacturing or processing operations which require frontage on navigable waters to receive raw materials or to distribute manufactured or processed materials by ship.
 - (3) Water-Using Facilities. Power plants and desalinization plants. Other uses which demonstrate a need for substantial amounts of water may qualify if the industry can demonstrate the following:
It cannot make use of lower quality water; it cannot reasonably assume the costs of conveying water to an inland site; a waterfront site would result in substantial energy savings over an alternative site.
 - (4) Associated Manufacturing or Processing Uses. Manufacturing or processing uses which must be in close proximity to an approved water-dependent manufacturing or processing use, and which meet one of the following conditions:
 - a. The transportation of either raw material inputs or finished product outputs to an inland site would constitute a substantial enough increase in product cost to make its production economically unfeasible.
 - b. The transport of materials from a berth to or from an inland site, would produce major increases in hazardous conditions due either to security problems, road or rail congestion, or the spillage or explosion of hazardous materials.

- (5) Berthing Facility. Wharves, piers, berths, docks, launching facilities in conjunction with any permitted water-dependent use.
- (6) Support Facilities. Uses which are required to support the operation of a water-dependent industry. Such uses shall be clearly accessory or incidental to the operation of any water-dependent industrial use. These generally would be maintenance or ancillary types of operations, and incidental offices for management and materials control.
- (d) Minimum parcel size: Determined by the conditions of the approved planned unit development permit. Parcels less than 200 acres in area are permitted only if they accommodate uses which are directly auxilliary to approved industrial uses on larger sites.
- (e) Maximum building height: None; provided, that no structure shall exceed the height limitations of Section 28-33 if located in an airport flight obstruction area.
- (f) Minimum setback requirements: Where parcel abuts an agricultural district, the minimum building setback shall be 500 feet except where otherwise provided by specific guidelines set forth in the Collinsville-Montezuma Hills Area Plan and Program. Other setbacks shall be established by the Planning Commission or Zoning Administrator in conformance with the specific setback requirements set forth in the Collinsville-Montezuma Hills Area Plan and Program.
- (g) Application for planned unit development permits shall be prepared in accordance with the provisions of Section 28-25, and shall follow the seven-step development review process for siting waterfront industries as set forth within the Solano County General Plan. Evaluation of the project shall be based upon provisions of the Solano County General Plan and the following criteria:
 - (1) Adequate provision is made, through the dedication of property or by other means, to provide for the protection of adjacent agricultural uses, easements for connections to berth facilities, and where feasible, open space, public access, and wetlands preservation.

- (2) Adequate safeguards are provided for the safe transport, transfer, storage, and emission of substances potentially hazardous to health, life, or property.

Sec. 28-23.6. MARSH PRESERVATION (MP) DISTRICT.

- (a) The Board of Supervisors finds that marshes, wetlands, and certain adjacent grasslands within the county represent an area of significant aquatic and wildlife habitat and are an irreplaceable and unique resource to the people of the county, state, and the nation. In order to preserve and enhance the quality and diversity of marsh habitats, there is hereby created a zone classification, the "MP" district, within which marsh oriented uses shall be encouraged to the exclusion of such other uses of land as may be in conflict with the long-term preservation and protection of marsh areas.

The provisions of this section shall be strictly interpreted to provide maximum protection to marsh areas. It is the intention of this section to deter developers from considering lands within the MP zone as potential urban development property, and it is further understood that there is no reasonable probability of the removal or modification of this zoning restriction within the near future. Furthermore, it is the intention of the MP zone to promote the continuation of existing uses of land and water areas within marsh areas and to encourage the enhancement of the value of such areas as marsh-related habitat. Types of uses encouraged within the marsh areas include aquatic and wildlife habitat; game hunting preserves; marsh-oriented recreational uses such as wildlife observation, sightseeing, nature photography, walking and hiking, bicycling, horseback riding, hunting, boating, fishing, waterskiing, sailing, swimming, and other similar aquatic recreational uses; agricultural activities compatible with the marsh environment and which protect and enhance the habitat value of marsh areas; and educational and scientific research opportunities and resources.

A primary intent of this section is to assure the preservation of tidal marshes, seasonal marshes, managed wetlands and lowland grasslands within the Suisun Marsh. Any development within the Suisun Marsh as defined by Section 29114 of the Public Resources Code may be subject to obtaining a Marsh Development Permit pursuant to the preservation Act, and as provided for in Section 28-26.5 of this Code.

- (b) Uses allowed:

- (1) Management of wetlands and agricultural operations, with emphasis on grain and hay crop pro-

duction, pasture, grazing, and the growing of plants and natural feed important to wildlife habitat, except that those uses indicated in subsection (c) of this Section may be established only after a use permit has first been secured.

- (2) Processing of agricultural products produced on the premises.
 - (3) Building and uses clearly accessory or incidental to any permitted use located on the premises, including a one-family dwelling or a manufactured dwelling, barns, private stables, sheds and other associated buildings.
 - (4) One (1) on-site sign, with a maximum area of 15 square feet appurtenant to any permitted use; provided, that no sign shall be permitted to overhang the public right-of-way, nor shall any sign be permitted which moves, blinks, flashes, oscillates, rotates, pulses in sequence, or is wind-driven or otherwise animated.
- (c) Uses permitted provided the conditions for a use permit as set forth in section 28-27 of this code are fulfilled:
- (1) Marsh-oriented recreational use and use incidental to recreation, including park, interpretive center, day use facility, lodge, club, or resort for swimming, boating, sailing, fishing, hunting or shooting, and raising of game, fishing pier and boat ramp, small craft docking and storage incidental to a small craft docking facility; commercial recreation use, including bait shop and refreshment stand, and similar types of uses as may be determined by the Planning Commission.
 - (2) Additional dwellings for caretakers or persons employed on the premises when such residential use is clearly accessory or incidental to the allowed use of the site.
 - (3) Oil and gas wells, and storage of natural gas in abandoned wells.
 - (4) Public service facility.
 - (5) Scientific research and educational facility directly related to the marsh environment, and similar uses as may be determined appropriate by the Planning Commission.

- (6) Dredging of minerals or natural materials.
- (7) Temporary facilities for the transfer of levee maintenance material from shore to barge.
- (d) The minimum parcel area required shall be 250 acres.
- (e) Minimum front, side and rear yard required: Ten (10) feet, unless otherwise indicated by building lines on the zoning maps.
- (f) Distances between buildings required: Accessory buildings shall not be less than 10 feet apart, and shall not be less than 10 feet from any dwelling unit on the property.
- (g) Maximum building height: Thirty-five (35) feet; provided, that additional height may be permitted for non-dwelling structures, including windmills, silos, and private water tanks; and provided further, that no such structure shall exceed the heights allowed in Section 28-33 of this Code, if located in an airport flight obstruction area.
- (h) Architectural approval may be required for any use in MP districts, as provided in Section 28-32 of this Code.

Sec. 28-26.5. MARSH DEVELOPMENT PERMITS.

- (a) Purpose. The purpose of a Marsh Development Permit is to allow uses within the secondary management area of the Suisun Marsh, subject to specific conditions and County approval. Lands designated as primary or secondary management areas of the Suisun Marsh are those as defined in § 29101, 29102 and 29103 of the Public Resources Code.
- (b) When Required. Marsh Development Permits shall be required from any person or entity wishing to undertake a development as defined in § 29114 of the Public Resources Code within the secondary management area of the Suisun Marsh. Any land use development permit or other permit which conforms with the provisions of this section may serve as a Marsh Development Permit, as determined by the county. If a portion of the site or development is within the primary management area, a permit may also be required from the county prior to application for any Marsh Development Permit which may be required by the San Francisco Bay Conservation and Development Commission (BCDC).
- (c) Issuance. Marsh Development Permits may be issued for any of the uses or purposes for which such permits are required or permitted by the terms of this Chapter. The lawful use of land under County permit, issued prior to the certification of the Suisun Marsh Local Protection Program, shall be eligible for a Marsh Development Permit provided said use does not have an adverse impact upon the Suisun Marsh. Granting of a Marsh Development Permit does not exempt the applicant from complying with requirements of building codes adopted pursuant to Chapter 6, other provisions of this Code, or other Ordinances.
- (d) Application. Application for a Marsh Development Permit shall be filed with the Planning Department and shall be accompanied by plans and data assuring the fullest practical presentation of facts about the development; a site plan drawn to scale and fully dimensioned showing property lines; the location and extent of existing and proposed work and uses; information clearly distinguishing existing from proposed improvements, existing and proposed public access areas, building elevations, and primary and secondary management area boundaries; the approximate distance to the nearest marsh, managed wetland, or tidal area; and the location and name of the nearest public road and private access. Such application shall be accompanied by a fee or fees as may be

set by the Board of Supervisors by resolution pursuant to Section 1-18 of this Code. No part of such fee shall be refundable.

- (e) Public Hearing. At least one public hearing on any Marsh Development Permit application shall be held by the Zoning Administrator or the Planning Commission.
- (f) Public Notice. At least ten (10) days prior to the public hearing on any Marsh Development Permit application, notice of the proposed development and the public hearing by the Zoning Administrator or Planning Commission shall be given by publication in a newspaper of general circulation in the county, and by posting in the vicinity of the property involved, or by mailing such notices to contiguous owners of record, and to all persons and organizations who have requested such notices.
- (g) Action.
 - (1) The Zoning Administrator or Planning Commission may grant Marsh Development Permits upon the findings, in each case, that the requirements set forth in this chapter and in subsection (h) of this section are fulfilled.
 - (2) The Zoning Administrator or Planning Commission may stipulate conditions, and guarantees that such conditions will be complied with when in the public interest and deemed necessary.
- (h) General Conditions. In granting a Marsh Development Permit, the Zoning Administrator or Planning Commission shall find the following conditions to be fulfilled:
 - (1) That the application process complies with the California Environmental Quality Act of 1970, as amended.
 - (2) That the establishment, maintenance, or operation of the use is in conformity with the County General Plan with regard to traffic circulation, population densities and distributions, and all other pertinent aspects.
 - (3) That adequate utilities, access roads, drainage, and other necessary facilities have been or are being provided.
 - (4) That the applicant has exhibited proof that such use will not constitute a nuisance or be detrimental to the health, safety, comfort, or general

welfare of the people of the County, or be detrimental to adjacent property or improvements in the neighborhood.

- (5) That the proposed development shall be consistent with the certified Suisun Marsh Local Protection Program.

(i) Revocation.

- (1) In any case where the conditions of a Marsh Development Permit have not been or are not complied with, the Zoning Administrator shall give to the permittee notice of intention to revoke such permit, at least ten (10) days prior to a Planning Commission review thereon. After conclusion of the review, the Planning Commission may revoke such permit.
- (2) In any case where a Marsh Development Permit has not been exercised within one (1) year after the date of granting thereof then, without further action by the Zoning Administrator or Planning Commission, the use permit shall be null and void; excepting, that upon written request by the permittee, the Planning Commission may authorize an extension of the permit not to exceed one year. Only one (1) such extension may be granted.

- (j) Reapplication. Whenever a Marsh Development Permit application has been denied for a specific use, no new application covering all or a portion of the property involved in the original application shall be accepted by the County for a period of six (6) months from the effective date of the final denial of the original application; provided, that upon a showing of a substantial change of circumstances, the Planning Commission may permit the filing of such new application prior to the expiration of such six (6) month period.

- (k) Appeal. Appeal from the action of the Zoning Administrator or Planning Commission may be made according to the provisions of Section 28-37 of this Code.

- (l) Minor Revisions. Minor revisions not constituting substantial alteration in the Marsh Development Permit, or any element thereof, may be reviewed and approved by the Zoning Administrator or Planning Commission, whichever shall have issued the permit sought to be revised. Each application for a minor revision shall be accompanied by a fee as may be set by the Board of Supervisors, pursuant to Section 1-18 of this Code. No part of said fee or fees shall be refundable.

DRAINAGE AND FLOOD CONTROL

CHAPTER 9

Sec. 9-1. Definitions.

For the purposes of this chapter, the following words and phrases shall have the meanings respectively ascribed to them by this section:

- (a) Adjacent Area. A strip of land 25 feet wide extending laterally outward from the top of each bank of a normal channel.
- (b) Channel. Any natural stream bed or mechanically excavated open depression in which water may or does flow.
- (c) Conduit. A general term for a channel intended for the conveyance of water, whether opened or closed.
- (d) Canal. An artificial waterway for drainage or irrigation.
- (e) Ditch. An artificial channel, usually distinguished from a canal by its smaller size.
- (f) Land leveling. The redistribution of the surface cover of dirt by mechanical means to change the existing contours of the land.
- (g) Person. Individuals, partnerships, associations, corporations, special districts, and other, not including employees of the County Public Works Department and the County Flood Control and Water Conservation District, or authorized representatives of the County.
- (h) Riparian habitat. The channel or adjacent area where plants and animals naturally grow as a result of the presence of the channel.
- (i) Top of bank. The upper elevation of land which defines the shape of a channel, conduit, canal, or ditch. The top of the bank of a normal channel does not include, nor shall the adjacent area be measured

from, swales or other low-lying lands contiguous to said normal channels which are subject to occasional inundation by rain waters or discharges of irrigation waters.

Sec. 9-2. Interference with public drainage and flood control facilities.

It shall be unlawful for any person to do any of the following acts within the county:

- (a) Destroy, remove, damage or interfere with the operation or maintenance of any levee, embankment, channel, dam, reservoir, canal, stream, protective work, access easement or other water delivery, drainage or flood control facility constructed, operated or maintained by any public agency.
- (b) Place, or cause to be placed in any channel, drainage ditch, water course, conduit, water delivery channel or upon any property over which the county or any public agency within the county has an easement for flood control, water delivery, drainage or access, any rubbish, trash or material of any kind that may interfere with the intended usage of the easement or facility.

Sec. 9-3. Permits for change of drainage--Required.

It shall be unlawful for any person to do any of the following acts within the county without first receiving a written permit therefore from the county engineer:

- (a) Level or releve agricultural land for irrigation purposes.
- (b) Change the topography of any land in such manner that alters or interferes with existing water drainage.
- (c) Fill, close or divert any storm water drainage channel or water course.
- (d) Use for any purpose or in any manner any levee, embankment, service road, channel, dam, reservoir, canal, protective work or facility constructed by any public agency for flood control, water delivery or drainage, unless permission for the use has been previously granted by the public agency involved.
- (e) Allow any water applied by him for commercial crop irrigation purposes to drain or spill upon the right-

of-way of any public street, road or highway, or any district canal or channel.

- (f) To encroach on any designated flood control easement or right-of-way by construction of any building, facilities, pipelines, fences, etc., or permit the installation of any restriction within the prism of any constructed channel which would reduce the designated hydraulic capacity, or in any natural channel which restrict its average flow characteristics.
- (g) To do any of the following activities within or in areas adjacent to those channels flowing or which will flow into the Suisun Marsh, as more fully shown on that diagram entitled "Protected Channels of the Suisun Marsh Watershed" on file at the Public Works Department and which is incorporated herein as though set forth in full.
 - (1) Newly construct any structure, except that the repair, replacement, reconstruction, improvement or maintenance of any existing structure may be taken unless the county engineer determines that such repair, replacement, reconstruction, improvement or maintenance will result in an increase in flood level, public flood hazard, or increase sedimentation to such an extent that adverse environmental effects will occur in the Suisun Marsh.
 - (2) Fill, grade, excavate, obstruct, close, divert, repair or reconstruct the channel or adjacent area of the channel. Emergency repairs may be commenced prior to obtaining a permit.
 - (3) Cut or remove vegetation except for:
 - (i) Grazing, cultivation of land, and other agriculturally related activities including cutting or removing vegetation from channels or adjacent areas for agricultural or flood control purposes.
 - (ii) Gardening and landscape activities associated with an established use.
 - (4) Store or handle toxic substances, excepting application of chemicals to land or crops in the course of agricultural practices or customary home landscaping activities.

Section 9-4. Same -- Terms of Issuance.

- (a) The county engineer or the applicable public agency having jurisdiction shall grant permits to do any of the things referred to in Section 9-3 if he finds that such acts will not prevent or obstruct water drainage, will not increase the costs of road operation and maintenance, and will not cause damage to any property or any flood control, water delivery or drainage facility.
- (b) The county engineer shall issue a permit for those activities set forth in Section 9-3(g) only if he finds in addition to the findings required by Section 9-4(a), that riparian habitat will be protected and that the proposed activity will not increase sedimentation and runoff into the Suisun Marsh to such an extent that adverse environmental impacts will occur in the Suisun Marsh.
- (c) Permits shall be subject to such terms and conditions as the county engineer shall deem reasonably necessary to assure adequate storm water drainage and the prevention of injury or damage, including increased sedimentation to any property, including county roads or flood control, water delivery or drainage facility, or the Suisun Marsh. No permit shall be granted to fill, grade, excavate, obstruct, close, or divert a storm water drainage channel, watercourse, or channel unless a substitute or replacement facility which is approved by the county engineer is provided. No such substitute or replacement facility which flows or will flow into the Suisun Marsh shall be approved unless there is no reasonable alternative.

Sec. 9-4.1. Conformance with grading and erosion control standards.

Development requiring a permit under this chapter shall be accomplished in a manner consistent with the general design principles and standards established by section 31-300 of this code. (Ord. No. 1087, § 3.)

Sec. 9-5. Permits for change of drainage -- Applications; processing procedures.

Persons desiring a permit under this chapter shall file with the county engineer a written application therefor on forms provided by the county engineer, together with a site location map and other information as required by the county engineer. Procedure covering the processing of an application by the county engineer is as follows:

From personal knowledge of location or on-site investigation of proposed work, he may either approve application or require additional engineering information provided by competent engineering assistance. Such additional engineering information may include:

- (a) Plans, profile maps and other data as may be required to show the present and proposed work.
- (b) When land leveling is involved, it shall include a cut and fill map showing finished grade, direction of irrigation, irrigation water source and drainage features, including off-site drainage provisions.
- (c) The leveling map shall also show existing drainage and water courses, adjacent roads, highways, ditches, bridges, culverts and other such data as may be required by the county engineer.
- (d) A performance bond may be required by the county engineer for all or a portion of the work proposed in the application. The amount of the performance bond shall be determined by the county engineer. If a performance bond is required it shall be posted before a permit is issued.
- (e) A fee for processing a permit under this chapter may be established by the Board of Supervisors by resolution. No fee may be charged for permits issued pursuant to Section 9-3(g) except for activities related to new construction, excluding additions and alterations, or such other circumstances where the magnitude of the activity is such that a fee is deemed appropriate by the Director of Public Works. Should a fee be imposed by the Director of Public Works, that determination may be appealed to the Board of Supervisors by the applicant.

Sec. 9-6. Same--Time limit; renewal.

The permittee shall begin the act or work authorized by a permit issued pursuant to this chapter within ninety calendar days from date of issuance, unless another date is specifically indicated in the permit, and the permittee shall notify the county engineer at least forty-eight hours prior to beginning work. Should the act or work not be commenced on or before the date indicated in the permit, then the permit shall become void, unless, prior to the date of expiration, the permittee presents good and sufficient reason for an extension of time and the date is extended by the county engineer in writing. A permit

which has become void by reason on non-commencement of work prior to the stipulated date may be renewed at the discretion of the county engineer. (Ord. No. 843, § 1.)

Sec. 9-7. Liability of county; correction of errors.

Nothing contained in this chapter shall impose any responsibility on the county, its agents, officers or employees for any errors or omissions of any kind or nature in any plans or information submitted to and approved by the county engineer; and no permit issued hereunder by the county engineer shall be deemed a certification by the county or its agents, officers or employees as to the accuracy or correctness of any land leveling document or documents submitted in support of applicant's request for such permit. If any permit is issued by error, or otherwise, or if a violation of this chapter occurs after construction by the permittee, then, in such event, the permittee must correct the error or work done under such permit to conform to the provisions of this chapter within six months from the date of discovery of such mistake or error; otherwise the permittee shall be deemed in violation of this chapter. (Ord. No. 528, § 5B; Ord. No. 843, § 1.)

Sec. 9-8. Appeal from denial of permit.

If a person desiring a permit is denied a permit by the county engineer, such person shall have a right of appeal as follows:

The appellant shall file a written notice of appeal with the Board of Supervisors of the county, which notice of appeal shall contain an undertaking or bond in the amount of two hundred dollars. Thereupon, the Board of Supervisors shall select an appeal board consisting of three competent engineers, and such appeal board shall review the application for such permit and render a decision thereon, and such decision shall be final as to the granting or denying of such permit; if appellant shall be granted a permit, the undertaking or bond shall be returned to appellant and the cost of such appeal proceedings shall be borne by the county, but if appellant is denied a permit by the appeal board, then the undertaking or bond shall be forfeited by appellant. (Ord. 528, § 6; Ord. No. 843, § 1.)

Sec. 9-9. Regulation of levee materials.

- (a) Purpose. The Board of Supervisors of the county finds and declares that the people of the county have a primary interest in the construction and maintenance of levees so that materials used for these purposes do not endanger or constitute a threat to the health, safety and welfare of the public.

- (b) Materials prohibited; exceptions. It shall be unlawful for any person to use junk or scrap metal, junked automobiles or parts, rubber tires, broken concrete with protruding reinforcing steel or other material of a similar nature for the purposes of erosion control or strengthening of any levee within the county; except, that such material may be used during periods of emergency to combat an immediate threat; provided, that materials used in an emergency are removed after the threatened danger has passed.
- (c) "Emergency" defined. "Emergency," for the purpose of this section, is defined to mean the sudden, unexpected rising or swelling of streams or navigable waters where such rising or swelling has damaged a levee or constitutes an imminent danger thereto. (Ord. No. 744, §§ 1 to 3: Ord. No. 843, § 1.)

GRADING AND EROSION CONTROL

CHAPTER 31

ARTICLE I. TITLE, PURPOSE AND GENERAL PROVISIONS

Section 31-100. TITLE.

This ordinance shall be known as the Solano County Grading and Erosion control Ordinance.

Section 31-101. PURPOSE.

The purpose of this ordinance is to provide the means for controlling soil erosion, sedimentation, increased rates of surface runoff and related environmental damage by establishing minimum standards and providing regulations for the construction and maintenance of fills, excavations, cuts and clearing of vegetation, revegetation of cleared areas, drainage control, and the protection of exposed soil surfaces in order to protect downstream waterways and wetlands and to promote the safety, public health, convenience and general welfare of the community.

Section 31-102. DEFINITIONS.

For the purpose of this ordinance, the following definitions shall apply:

- (a) Applicant. A person, partnership, corporation or public agency requesting permission to engage in any clearing of vegetation or grading activity.
- (b) Civil Engineer. A professional engineer registered as a civil engineer by the State of California.
- (c) Diversion. A temporary or permanent structure consisting of a channel, ditch or ridge constructed across a sloping land surface to intercept and divert surface runoff.
- (d) Erosion. Detachment and movement of soil or rock fragments by water, wind, ice or gravity.

- (e) Erosion and Sediment Control Handbook. A handbook maintained by the County which serves as a guide to effective practices and structural measures for control of soil erosion and sedimentation.
- (f) Excavation or Cut. Any act by which soil, rock, earth, sand, gravel or any similar material is cut into, dug, quarried, uncovered, removed, displaced or relocated, and shall include the conditions resulting therefrom.
- (g) Fill. A deposit of earth or other material placed by artificial means.
- (h) Floodplain. The relatively flat area generally adjoining the channel of a natural stream which has been or may be hereafter covered by flood water.
- (i) Grading. Any excavation, stripping, cutting, filling, stockpiling, or any combination thereof which alters land or vegetation.
- (j) Land Disturbances. Any activity which results in the deposit or removal of any material or the alteration of either land or vegetation and which may result in increased potential for soil erosion or sedimentation.
- (k) Mulching. The application of plant residue or other suitable materials to the land surface to conserve moisture, hold soil in place, and aid in establishing plant cover.
- (l) Runoff. The surface water flow or rate of flow following precipitation.
- (m) Sedimentation. The process by which mineral or organic matter is removed from its site of origin, transported, and deposited by water, wind, or gravity.
- (n) Sediment Basin. A reservoir which retards flows sufficiently to cause or allow deposition of transported sediment.
- (o) Site. Any lot or parcel of land or a series of lots or parcels of land adjoining or contiguous or joined together under one ownership where grading, excavating or filling is, was or will be performed.
- (p) Watercourse. Any natural or man-made channel for transporting water, including the streambed and the banks, whether continuously flowing or intermittent.

Section 31-103. APPEALS.

Appeals from decisions under this ordinance shall be made to the Board of Supervisors in writing within ten days from the date of such decision.

Section 31-104. VALIDITY AND SEVERABILITY.

Should any section, subsection, subdivision, sentence, clause, or phrase of this ordinance be held unconstitutional, such section shall be deleted and shall not affect the validity or enforceability of the remaining sections of this ordinance.

Section 31-105. FEES.

A schedule of fees may be established by resolution of the Board of Supervisors for all costs incurred in the processing of any grading application. Such fees shall cover the full costs of review, approvals, inspections, certification of compliance, or other determinations or actions necessitated by the permit application. A separate and distinct fee may be set by the Board of Supervisors by resolution for the cost of appeals filed pursuant to this Chapter.

ARTICLE II. PROCEDURE

Section 31-200. GRADING PERMIT REQUIREMENT.

Except as exempted in Sections 31-201. and 31-202. below, no person shall commence or perform any grading, filling, excavation, or clearing of vegetation for any purpose without having first obtained a grading permit from the Public Works Department. A separate permit shall be required for each site and may cover both excavations and fills.

Section 31-201. EXEMPTIONS.

A grading permit is not required if the proposed work consists of the following activities and where such activities will not endanger adjacent property, cause increased erosion, sedimentation and rate of water runoff, divert or impair the flow of water within a watercourse or cause a public nuisance. All development activities exempted from the grading permit requirement shall be carried out in a manner consistent with the design principles and standards set out herein to assure that the potential for erosion of any project is minimized:

- (a) Gardening primarily for home use and landscaping activity which involves land disturbance of less than 10,000 square feet of surface area.
- (b) An excavation below finished grade for swimming pools, septic tanks, leaching systems, basements and footings of a building, retaining wall or other structure authorized by a valid building or encroachment permit. This shall not exempt lot grading or filling for a construction site unless otherwise provided for by this Section.
- (c) An excavation which (1) does not result in the movement of more than 150 cubic yards of material on any one site, (2) is less than 5,000 square feet of surface areas, (3) is less than four feet (4') in vertical depth at its deepest point measured from the natural ground surface, (4) does not create a cut slope steeper than two horizontal to one vertical (2:1) and (5) which is promptly stabilized or revegetated where needed to prevent erosion.
- (d) A fill which (1) does not exceed 150 cubic yards of material on any one site, (2) is less than 5,000 square feet of surface area, (3) is less than four feet (4') in vertical depth at its deepest point measured from the natural ground surface, (4) is placed on a surface having a slope not steeper than seven horizontal to one vertical (7:1), (5) does not create a slope steeper than two horizontal to one vertical (2:1), (6) does not change the existing offsite drainage pattern above or below the grading site, (7) will not be used for structural support, and (8) is promptly stabilized or revegetated where needed to prevent erosion.
- (e) Accepted agricultural or managed wetland activities including routine mowing, plowing, harrowing, disk-ing, ridging, leveling, riprapping and similar operations necessary to prepare an existing field or a crop or flooding with the exception of grading or leveling of land not previously graded or leveled for production.
- (f) Cemetery graves, well drilling, tunnels and trenches for utilities and exploratory excavations under the direction of soil engineers or engineering geologists.
- (g) Refuse disposal areas, sanitary landfills, mining, quarrying, excavating processing, stockpiling of rock, sand, gravel aggregate or clay, as authorized in the zoning ordinance, for which a use permit has

been granted by Solano County where the operation and conduct thereof is being carried out in accordance with an approved plan for grading and erosion and sediment control and the project does not block or divert any natural drainage way or unduly increase runoff upon any adjacent or contiguous property.

- (h) Grading or development performed by Solano County or Special Districts which have incorporated grading standards as set forth herein as part of their operating policies.
- (i) Land leveling activities for which a permit has been issued pursuant to Chapter 9 of the Solano County Code, "Drainage and Flood Control".
- (j) Development and maintenance of fire access roads, fire breaks and stock trails.

Section 31-202. GRADING PROVISIONS FOR MAJOR SUBDIVISIONS.

The Public Works Director is hereby authorized and directed to enforce the provisions of this ordinance for all grading done within subdivisions. A separate grading permit is not required for land disturbance activities associated with major subdivisions administered by the Public Works Director where the control of grading and erosion is incorporated into the subdivision plans.

A separate grading permit may be required, however, for minor subdivisions requiring grading activities associated with conditions of approval. No grading shall be done for subdivisions until a grading plan has received final approval by the Public Works Director.

Section 31-203. MINOR GRADING.

A minor grading permit may be issued by the Public Works Director for proposed projects of a minor nature. Factors used by the Public Works Director in determining if a project is of a minor nature include, but are not limited to, the following:

- (a) The development will disturb an area of land less than 30,000 square feet and result in less than 1,000 cubic yards of earth movement.

- (b) The project will limit the establishment of impervious surfaces to a maximum of 15,000 square feet and will provide for the control of runoff from such surfaces.
- (c) There is an absence of steep slopes defined as 15% or greater, highly erodible soils or unstable slopes defined as Type A lands in the Health and Safety Element of the Solano County General Plan.
- (d) The project will not damage structures on or adjacent to the site.
- (e) The project will not obstruct or block the drainage of waterways and channels.
- (f) The project will not impair significant natural vegetation, biological habitats, public views, or other sensitive natural resources.

Such a permit shall require the applicant to adhere to the provisions of the approved site map, grading plan and erosion control plan and to any additional conditions as required by the Public Works Director in order for the project to conform to the standards set forth herein. Such conditions may include but are not limited to drainage provisions, revegetation requirements and erosion and sediment control measures.

Section 31-204. PERMIT PROCEDURE FOR A MINOR GRADING PERMIT.

The application for a minor grading permit shall be made in writing on a form prescribed by the Public Works Director and shall include all information, plans and maps deemed necessary for a comprehensive review of the project by the County. The application must be signed and certified by the owner of the property, or by an authorized agent. The application shall be accompanied by scale drawings, the permit application fee, and, if required, a bond. The Public Works Director may waive portions of the application requirements or require additional information as needed. The application for a minor grading permit shall include but not be limited to the following:

- (a) A vicinity map showing the relationship of the site to the surrounding area roads, streams and important geographic features.
- (b) A site map to include the exterior boundaries of the property, adjacent roads, existing structures, major landmarks, stream alignments, contour intervals, soils description and all appropriate geologic information.

- (c) A grading plan indicating elevations, dimensions, quantity, location and the extent of the proposed grading and a schedule for construction activities. The grading plan shall also include a report showing the extent and manner of tree cutting and vegetation clearing and disposal, provisions for stockpiling topsoil used in revegetation of the site and plans for temporary and final revegetation of the site.
- (d) An erosion control plan which indicates necessary land treatment, structural measures and timing requirements which will effectively minimize soil erosion and sedimentation.

Section 31-205. MAJOR GRADING PERMIT.

A proposed project which does not qualify for a minor grading permit as set forth in Section 31-203. or as determined by the Public Works Director shall require a major grading permit.

Section 31-206. APPLICATION PROCEDURE FOR A MAJOR GRADING PERMIT.

- (a) The application for a major grading permit shall be made in writing on a form prescribed by the Public Works Director and shall include all information, plans and maps deemed necessary for a comprehensive review of the project by the County. The application for a major grading permit shall include the vicinity map, site map and grading plan as required for a minor grading permit under Section 31-204.. In addition, the Public Works Director shall require that the application include an engineered erosion, sediment and runoff control plan which indicates necessary land treatment, structural measures and timing requirements which will effectively minimize soil erosion, sedimentation and the rate of water runoff. The erosion, and sediment and runoff control plan shall contain appropriate information required by this Section and as deemed necessary by the Public Works Director. The plan shall be prepared under the direction of a registered civil engineer and signed by the engineer unless this requirement is waived by the Public Works Director. Following submittal of the application, the County shall determine the adequacy of the plan and may require the submission of further qualification or information when necessary to judge the adequacy of the planned erosion, sediment and runoff control measures. The proposed measures shall incorporate recommendations contained in the County's Erosion and Sediment Control Handbook. The plan shall contain a description of the following:

- (1) Vegetative measures.
 - (2) Drainage protection and control measures.
 - (3) Erosion and sediment control measures.
 - (4) Runoff control measures.
 - (5) Cut and fill construction.
 - (6) Disposal of excess materials.
 - (7) Stockpiling of materials.
 - (8) Dust control measures.
 - (9) A construction schedule.
- (b) The Public Works Director may also require additional information to be supplied by the applicant including but not limited to the following:
- (1) A soil engineering report including data regarding the nature, distribution and strength of existing soils, conclusions and recommendations for grading procedures and design criteria for corrective measures when necessary, and opinions and recommendations covering adequacy of sites to be developed by the proposed grading.
 - (2) An engineering geology report including an adequate description of the geology of the site, conclusions and recommendations regarding the effect of geologic conditions on the proposed development, and opinions and recommendations covering the adequacy of sites to be developed by the proposed grading.

ARTICLE III. DESIGN PRINCIPLES AND STANDARDS

Section 31-300. GENERAL DESIGN PRINCIPLES AND STANDARDS.

The purpose of the general design principles and standards is to assure the development be accomplished so as to minimize adverse effects upon the existing terrain and to minimize the potential for erosion. Control measures are to apply to all as-

spects of the proposed grading and are intended to be operational during all stages of development. The following basic design principles and standards shall serve as minimum guidelines for grading plans and erosion, sediment and runoff control plans.

- (a) Stripping or burning of vegetation, grading, or other soil disturbance shall be done in a manner which will minimize soil erosion.
- (b) Existing natural vegetation shall be retained, protected and supplemented wherever feasible. Site development shall be accomplished so that existing trees are preserved whenever possible and practical.
- (c) Exposure of soil to erosion by removal of vegetation shall be limited to the smallest area practical and for the shortest time practical. Soil exposure shall not exceed an area in which development will be completed during a single construction season to insure that soils are stabilized and vegetation is established in advance of the rainy season (October 15 - April 15. When necessary, extensions or restrictions of this time period may be established by the Public Works Director on a case by case basis).
- (d) Facilities shall be constructed to retain sediment produced on site.
- (e) Sediment basins, sediment traps, diversions or similar required measures shall be installed well in advance of any clearing or grading and maintained throughout any such operations until removal is authorized by the permit-issuing authority. The design of such structures should account for abating potential mosquito problems.
- (f) Temporary and final seeding, mulching, or other suitable stabilization measures shall be used to protect exposed erodible areas during development and in advance of the rainy season (October 15 - April 15 - When necessary, extensions to this time period may be granted by the Public Works Director on a case by case basis).
- (g) Permanent control structures and final vegetation should be installed as soon as practical in the development and a long range maintenance plan developed and adhered to.
- (h) Provisions shall be made to accommodate the increased runoff caused by altered soil surface conditions during and after development.

- (i) Surface runoff rates in excess of predevelopment levels shall be retarded by appropriate structural and vegetative measures.
- (j) Slopes, both cut and fill, shall not be steeper than two horizontal to one vertical (2:1) unless a thorough geological and engineering analysis indicates that steeper slopes are safe and appropriate erosion control measures are specified.
- (k) Cuts and fills shall not encroach upon natural watercourses, their floodplains, or constructed channels in a manner so as to adversely affect other properties.
- (l) Disposal of cleared vegetation and excavated materials shall be done in a manner which reduces the risk of erosion and shall strictly conform to the provisions of the approved grading permit. Topsoil shall be conserved for reuse in revegetation of disturbed areas whenever possible.
- (m) Proposed development and roadway alignments should be fitted to the topography and soils to minimize erosion.
- (n) Waterways shall be designed to avoid erosion as much as practical. Wide channels should be constructed with flat side slopes and the channel and slopes should be lined with grass or other appropriate vegetation. Every effort must be made to preserve natural channels and drainageways.
- (o) Except as limited by Chapter 28-33.6 designated watercourse environmental areas, filling, grading, excavating or obstructing the bed or banks of a watercourse and removal of riparian vegetation shall be allowed only where no reasonable alternative is available and where allowed, shall be limited to the minimum amount necessary.

ARTICLE IV. IMPLEMENTATION AND ENFORCEMENT

Section 31-400. REVIEW AND APPROVAL.

Grading permit applications and accompanying maps and plans shall be reviewed by the County and approved when found to be in compliance with the provisions of this ordinance, and conformance with acceptable grading and erosion control techniques. Permits required as a condition of a building permit,

use permit or other land development permit will be issued only in conjunction with, or subsequent to, approval of such a permit and not in anticipation of such a permit.

Section 31-401. INSPECTION AND ENFORCEMENT.

The provisions of this ordinance shall be enforced by the Public Works Director who shall require inspection of all work and require compliance with all the provisions of the ordinance. Whenever necessary to make an inspection to enforce any provision of this ordinance, or whenever the Public Works Director or his authorized representative has reasonable cause to believe that there exists on any private property, a condition or activity which requires a permit as specified by this ordinance, the Public Works Director or his authorized representative may enter such property at all reasonable times to inspect the same or to perform any duty imposed upon the Director by this ordinance.

Section 31-402. APPLICANT'S RESPONSIBILITIES.

- (a) The applicant shall install all soil erosion and sediment control measures in strict compliance with the ordinance and in accordance with the approved erosion control plan.
- (b) The Public Works Director shall issue a "Notice of Permit" form or forms which shall be posted on the property at a place which can be easily seen anytime that grading activity is occurring. A copy of the approved permit and plans must also be retained on site for review at any time.
- (c) All soil erosion and sediment control measures shall be adequately maintained by the applicant for a period of one year or until such measures are permanently stabilized as determined by the Public Works Director. The Public Works Director shall issue a certificate indicating the date on which the measures in the approved plan were completed.
- (d) An order to stop work may be issued and further work shall be prohibited if it is determined that the work does not comply with the provisions of the approved erosion control plan or with the provisions of the ordinance until such time as compliance with the ordinance is assured.
- (e) A new or modified erosion and sediment control technique may be allowed to be used provided there is mutual

agreement between the Public Works Director and the applicant that the technique meets the intent of the erosion control plan.

- (f) The Public Works Director may require modifications to grading plans and operations if delays occur as a result of weather generated or other natural phenomena not considered at the time a permit was issued.
- (g) The Public Works Director may cause remedial work to be done at the applicant's expense if it is determined that it is necessary to protect completed work or to prevent damage.

Section 31-403. ABATEMENT OF HAZARDS.

If it is determined by the Board of Supervisors or by the Public Works Director as the Board's authorized representative that any existing excavation or embankment or fill on private property has become a hazard to life and limb or endangers property or adversely affects the safety, use or stability of a public way, watercourse, wetland or drainage channel, the owner of the property upon which the excavation or fill is located, or other person or agent in control of said property, upon receipt of notice in writing from the County shall, within the period specified therein, repair or eliminate such excavation or embankment so as to eliminate the hazard and be in conformance with the requirements of this code. If the requirements of the notice are not complied with in the time period specified, the County may seek injunctive and/or other relief by a civil action against any person or persons participating in the violation.

Section 31-404. PERFORMANCE BOND.

A performance bond, cash bond, instrument of credit or other form of security acceptable to the Public Works Director may be required to be posted by the applicant. The amount of the bond or security shall be the full cost of the installed erosion and sediment control measures and for the maintenance of such facilities. At the discretion of the Public Works Director, the bond may be held until the erosion and sediment control measures have performed satisfactorily for a period of one year following completion of development or until such measures are permanently stabilized as provided for in this ordinance. The bond may be used to provide for the installation and maintenance of the control measures if not done by the applicant and sediment runoff is occurring as a result.

Section 31-405. PENALTIES.

Any person, firm, corporation or agency whether as principal agent, employee, or otherwise failing to comply with the provisions of this ordinance shall be guilty of misdemeanor and upon conviction thereof, shall be punishable by a fine of not more than five hundred dollars (\$500.00) for each separate offense and shall be strictly liable for the cost of any work required by the County to abate any erosion, sediment or runoff hazard. Every day any violation of this ordinance shall continue shall constitute a separate offense.

CHAPTER IV
CONSISTENCY BETWEEN
PROVISIONS OF THE MARSH ACT
AND
EXISTING COUNTY POLICY

IV CONSISTENCY BETWEEN PROVISIONS OF THE MARSH ACT AND EXISTING COUNTY POLICY

CONSISTENCY OF EXISTING LAND USE DESIGNATIONS AND ZONING REGULATIONS FOR CERTAIN LANDS IN THE MARSH WEST OF INTERSTATE 680 WITH PROVISIONS OF THE MARSH PRESERVATION ACT

Sections 29403 and 29405 of the Marsh Act require the County to determine enforceable land-use standards which are compatible with long-term preservation of the Marsh and to apply the standards to the secondary management area west of I-680.

In preparing its local component, the County reviewed the general plan land use designations and zoning regulations for the area. The hills above I-680 are designated Extensive Agriculture on the County's General Plan and the entire area is within the Exclusive Agriculture Zoning District with a minimum parcel size of twenty acres. It is County policy to place these land use and zoning designations upon lands which are intended for long term retention in agriculture. Therefore, the Board of Supervisors has found the existing agricultural policies and regulations to be consistent with the long-term protection of agriculture and with the provisions of the Suisun Marsh Preservation Act and Protection Plan.

AREAS ADJACENT TO THE SUISUN MARSH
TO BE RETAINED IN USES COMPATIBLE WITH
PROTECTION OF LONG TERM AGRICULTURAL USE
WITHIN THE SUISUN MARSH

In preparing the local component of the Suisun Marsh Local Protection Program, the County has reviewed its existing general plan designations, general plan policies and zoning regulations in order to designate the area adjacent to the Marsh to be retained in agricultural use or uses compatible with long-term agricultural use so as to ensure long term agricultural use and productivity of agricultural lands within the Suisun Marsh. The County has established a zone 300 feet deep adjacent to the marsh boundary to meet the requirements of Section 29427(a). A review of policies and regulations has also been conducted to establish compliance with Section 29427(b) which directs the County to establish certain enforceable standards to protect long term agriculture in the designated area adjacent to the Marsh. Documentation of compliance with the above mentioned sections of the Public Resources Code is outlined below.

The County, as part of its revision of the Solano County Land Use and Circulation Element adopted in December, 1980, has carefully studied and evaluated agricultural use and activity in Solano County. The Element states that the agricultural lands are either extensive agricultural lands, non-irrigated lands used for grazing and dryland farming, or intensive agricultural lands, lands with highly fertile soil brought into intensive production through irrigation.

It has further determined that certain extensive and intensive lands are essential agricultural lands necessary for the maintenance of a healthy agricultural economy. These lands are characterized by good soil capability for agricultural production, actual agricultural productivity, sufficient parcel size for farming and size of the farming area relative to the ability of agricultural activities to support one another and to be a buffer from urban encroachment. Such lands should be protected for long term agricultural uses.

The County also contains lands designated as non-essential agricultural lands which have also been determined to be important to the agricultural economy and should be retained in agricultural use for the time period of the General Plan.

In order to retain essential agricultural lands in production, it is necessary to retain agricultural parcels of sufficient size to maintain them as farmable units under modern agricultural practices. A farmable unit has been defined in the land

use element as the parcel size a farmer would consider leasing or purchasing for different agricultural purposes. An extensive agricultural farmable unit is 160 acres, and an intensive agricultural farmable unit is 80 acres, or 40 acres if the parcel is highly productive such as orchard or vineyard lands.

Based upon the above analysis and findings, the Solano County General Plan Land Use and Circulation Element Map designates for extensive agricultural use the Vallejo-Benicia hills adjacent to the western boundary of the Marsh, the Montezuma Hills adjacent to the eastern boundary of the Marsh, and the Denverton area adjacent to the northeastern boundary of the Marsh. It has designated intensive agriculture for lower Suisun Valley adjacent to the northern boundary of the Marsh. The Element further defines the Montezuma Hills area as essential extensive agricultural land, the Suisun Valley as essential intensive land, and the remainder of the agricultural lands around the Marsh for non-essential extensive agricultural use.

The Solano County Zoning Regulations contain a Exclusive Agricultural Zoning District (A) and the Zoning Regulations state that "the purpose and intent of the A district is to preserve lands best suited for permanent agricultural use from the encroachment of incompatible uses" and that A-20, A-40, A-80 and A-160 areas "shall be used exclusively for agriculture... and there is no reasonable probability of the removal or modification of this zoning restriction within the near future".

The County has applied: (1) the Exclusive Agricultural Zone with a minimum parcel size of 160 acres to all the essential extensive agricultural land designated on the General Plan Map around the Marsh; (2) the Exclusive Agricultural Zone with a minimum parcel size of 40 acres to all the essential intensive agricultural land designated on the General Plan Map around the Marsh; and (3) the Exclusive Agricultural Zone with a minimum parcel size of 20 acres to the non-essential agricultural lands of the Vallejo-Benicia Hills and a minimum parcel size of 160 acres to the non-essential agricultural lands in the Denverton area. It is the County's policy to retain essential agricultural lands in exclusive agricultural use and non-essential agricultural lands in exclusive agricultural use through the time period of the General Plan, each at least at the minimum parcel size currently zoned.

Because of General Plan policies to protect essential and non-essential agricultural lands in productive agricultural use; agricultural zoning districts which retain agricultural parcels in large farmable units, and the existing large parcel sizes of agricultural uses, the County has determined that an area 300 feet from the edge of the Suisun Marsh as shown on the map entitled "Boundaries of the Suisun Marsh" will be sufficient to protect the long-term agricultural use and productivity of agricultural lands within the Marsh.

APPENDIX A

REFERENCES

A. REFERENCES

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APPENDIX B
APPROVING AND ADVISORY BODIES

B. APPROVING AND ADVISORY BODIES

SOLANO COUNTY BOARD OF SUPERVISORS

Wallace Brazelton
Richard Brann
Jan Hewitt
Osby Davis
John Cunningham
Larry Asera (through January 5, 1981)

Richard Watson County Administrator
David Balmer County Administrator (through March 1, 1982)

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Philip Kay
Gerald Allbright (through November 24, 1980)
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Clayne E. Munk Planning Director

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Dennis Becker, State Department of Fish and Game

Dennis Beebe, Solano County Mosquito Abatement District

Jeffry Blanchfield, San Francisco Bay Conservation and
Development Commission

Brice Bledsoe, Solano Irrigation District

Dan Chapin, Suisun Resource Conservation District

David Eubanks, Solano County Department of Environmental
Health

Pat Fulton, Assemblyman Fazio's Office

Michael Kaufman, City of Suisun

Joel Kushing, State Department of Health

Barbara Morris, Assemblyman Hannigan's Office

Larry Norris, U.S. Soil Conservation Service

Greg Palamountain, Reclamation District 1607

John Swenson, Solano County Public Works Department

Lee Syracuse, City of Benicia

Ron Tsugita, Fairfield-Suisun Sewer District

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Charles W. Moore Assistant Planning Director
David Hubbell Project Director
Timothy Calkins Project Planner
Harry Englebright Project Planner
Katherine Hammer Project Planner
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